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ABSTRACT

Issues crucial to the maintenance of quality campuses were the focus of the symposium reported in this document. The publication reflects the viewpoints of both presenters and participants and its numerous color photographs of different campuses are illustrative of the kinds of issues discussed. The presentations, which are presented in summary form following a list of papers and authors, were the following: "The Challenge: Preserving a Quality Environment for Learning" (Phillip R. Shriver); "Images of the Campus" (Paul E. Young, Jr.); "Adaptive Uses of Campus Buildings and Harmonious New Design" (Jacquelin T. Robertson); "Laboratory Modernization and Adaptation in the United Kingdom" (Roger Clynes); "Curatorial Management of Campus Facilities for Learning" (Diether H. Haenicke); "Managing and Caring for the Campus Landscape" (Judy May Chan); "A Special Adaptation" (for the Smithsonian) (Jean Paul Carlhian); "Measuring the Value of Campus Architecture" (Richard Longstreth); "Ancient Facilities--Modern Uses" (Norbert Iterbeke); and "Developing and Implementing a Campus Environmental Plan" (Carl D. Johnson). Following the symposium, a tour was arranged for international visitors which took them to the campuses of Kenyon College, the University of Michigan, the University of Virginia, Cranbrook Educational Community, Michigan State University, the College of William and Mary, and The Ohio State University. Text about and photographs of these facilities are featured in the publication. (MLF)

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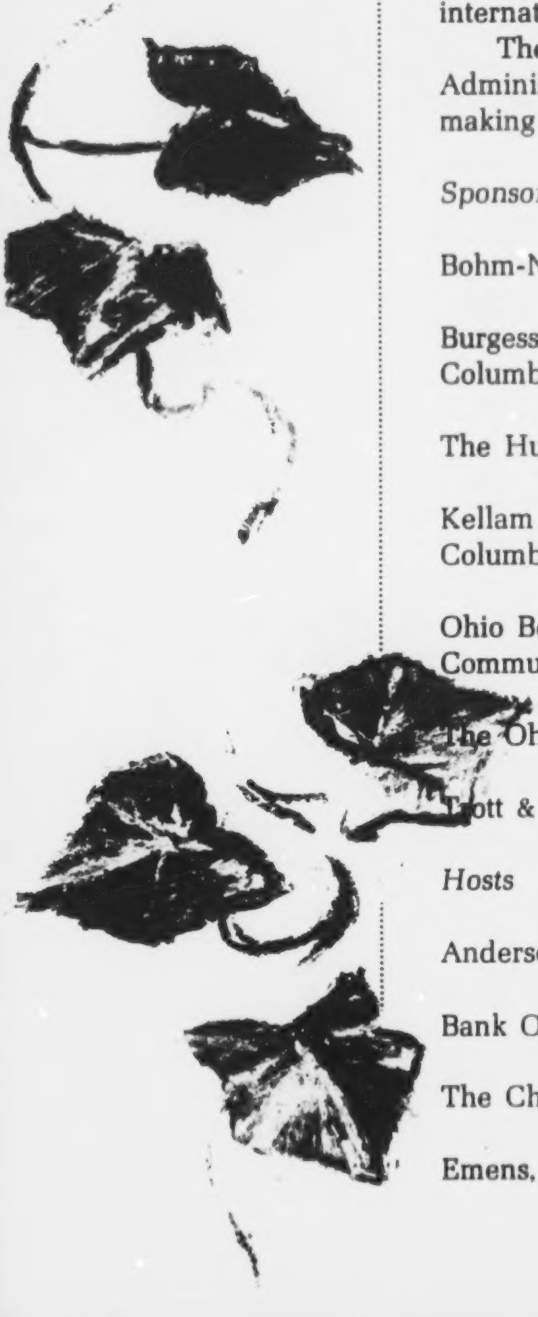
CAROLE GERBER

Acknowledgments

The Best-Laid Plans: Components of Quality Campus Environments is based on proceedings of the First International Symposium on Preserving a Quality Environment for Learning, October 1-3, 1986, organized by The Ohio State University Office of Business and Administration in Columbus, Ohio, and on the campus tours for international visitors that followed.

The Ohio State University Office of Business and Administration wishes to thank the following firms for making the Symposium possible:



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PRESENTERS

Our thanks to the distinguished experts who made presentations at the symposium. Although each presenter dealt with a specific topic, ideas overlapped from lecture to lecture and important concepts were introduced and discussed during the symposium's informal question and answer sessions. Since this publication is an attempt to go far beyond merely summarizing the presentations, information included under the various headings sometimes includes the viewpoints of the audience and of other presenters.

This decision obviously carries with it the risk that, at times, the editor has not given appropriate credit for material derived directly from presentations. However, it was felt that extensive scholarly documentation was not necessary and would interrupt the flow of ideas captured in the publication. Because the give and take of ideas does not necessarily follow the type of sequence required for a publication, the headings around which this book is arranged do not always follow the order in which presentations were made.

Therefore, listed after the speaker and the title of each presentation is the title of the section(s) based on that presenter's remarks. Sections have been reviewed and approved by presenters prior to publication. The section on restoration at the College of Charleston, mentioned briefly in Richard Longstreth's presentation, was researched and written by the editor and approved by the College for inclusion in this publication. She also researched and wrote the second half of the book based on the college tours.

In addition to their expertise on which this publication is based, many presenters generously contributed the slides with which it is illustrated. In the order in which they made presentations—followed by the section titles in this publication based on their remarks—speakers at the First International Symposium for Preserving a Quality Environment for Learning were:

Phillip R. Shriver, President Emeritus and Professor of History, Miami University, and President, Ohio

Historical Society. "The Challenge: Preserving a Quality Environment for Learning."
(The Post-World War II Building Boom)
(Miami University's Response to the Post-Boom Years)

Paul E. Young Jr., Professor, Department of Architecture, The Ohio State University. "Images of the Campus."
(The Ohio State University Study)
(Early American Universities)

Jacquelin T. Robertson, Dean, School of Architecture, University of Virginia. "Adaptive Uses of Campus Buildings and Harmonious New Design."
(The Post World War II Building Boom)

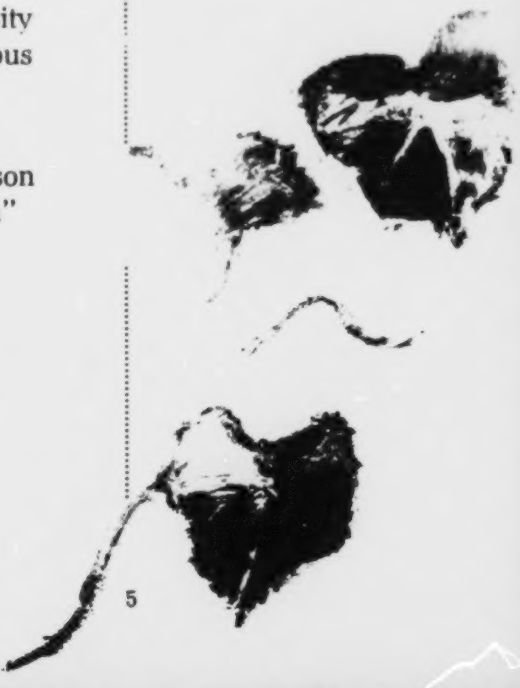
Roger Clynes, Superintending Architect and Director, Laboratories Investigation Unit, Department of Education and Science, London. "Laboratory Modernization and Adaptation in the United Kingdom."
(Laboratory Adaptations in the United Kingdom)

Diether H. Haenicke, President, Western Michigan University. "Curatorial Management of Campus Facilities for Learning."
(A Recommitment to Quality at Wayne State)
(Restoration and Adaptive Use of Older Campus Buildings)

Judy May Chan, Associate Director, Stanford University Planning Office. "Managing and Caring for the Campus Landscape."
(Land Use Planning at Stanford University)

Jean Paul Carlhian, FAIA, Shepley Bulfinch Richardson and Abbott, Architects, Boston. "A Special Adaptation" (for the Smithsonian)
(An Underground Treasure at the Smithsonian Institution)

Richard Longstreth, Director, Graduate Program in Historic Preservation, George Washington University. "Measuring the Value of Campus Architecture."
(Changing Views Toward Campus Architecture)



Norbert Iterbeke, Director of Planning, Catholic University, Leuven, Belgium. "Ancient Facilities—Modern Uses."
(Forerunners of Modern Universities)
(Restoring and Modernizing the Grand Beguinage)

Carl D. Johnson, Partner, Johnson, Johnson and Roy Landscape Architects and Site Planners. "Developing and Implementing a Campus Environmental Plan."
(The University of Michigan's North Campus Plan)

Images of the campus at The Ohio State University: Students relax on the steps of University Hall. (Slide courtesy of The Ohio State University)

PREFACE

The creation and maintenance of a quality campus environment is a complex process that occurs over many years and demands the inspired contributions of many persons. The creative insights and abilities of architects and landscape architects play an important role, but the responsibility for campus development also rests with administrators, faculty, planners and physical facilities managers committed to maintaining environmental excellence.

Providing the expertise required to maintain a quality campus is an ongoing challenge. One expert has written that quality learning environments have three major components: buildings and grounds that serve the physical and social needs for which they were intended; attractive, durable materials with which to construct the learning environment; and the first rate planning and design necessary to create and maintain campuses of enduring serviceability and beauty.

These and other issues crucial to the maintenance of quality campuses were the focus last fall of the First International Symposium on Preserving a Quality Environment for Learning held in Columbus, Ohio. Its purpose was to provide, for the first time, an opportunity for Americans, Europeans and others to discuss the art and science of creating and maintaining quality campuses both in the United States and abroad. The symposium and the campus tours that followed for international participants were designed as arenas for the sharing of ideas and expertise, questions and answers.

What common problems are shared by American campuses and those of other countries? What guidelines for continuity can planners, architects, historic preservationists, and facilities and landscape administrators work together to develop? Is there a link between a quality physical setting and a quality academic environment? A variety of presentations, a variety of viewpoints—many of them passionately delivered—and an incredible array of expertise all combined to make the symposium precisely the type of lively event we had hoped it would be.

The results of a 1986 Ohio State University study on the relationship between the campus physical environment and the quality of campus life included in Paul Young's presentation sparked interesting discussions. So did Jacquelin Robertson's comparison of the common problems faced by city and university planners. His suggestion that the intimacy, human scale and pedestrian focus of the village offers a better model for the university than the congested, impersonal ambiance of the modern city shared a common focus with presentations that followed.

Norbert Iterbeke's presentation and videotape about the mammoth restoration efforts completed at the Catholic University of Leuven's Grand Beguinage graphically illustrated how effectively the village model of the university can be preserved, as did the discussions about rehabilitation efforts at Wayne State by Diether Haenicke and post-World War II expansion at Miami University by Phillip Shriver.

The importance of landscape architecture and the need for planning in the maintenance of quality environments was addressed by Judy May Chan and Carl Johnson who described how these tasks are carried out, respectively, at Stanford and the University of Michigan. Richard Longstreth provided a panoramic view of a variety of different types of quality campuses in his extensive slide presentation, and Roger Clynes gave a bird's eye view of the specialized field of laboratory modernization and adaptation. His presentation was complemented by that of Jean Paul Carlhian who described a major project by his firm for the Smithsonian. Based on these presentations, a number of issues, described in detail in this publication, were raised regarding the creation and maintenance of quality environments for learning.

Following is a very brief overview of some of the characteristics many felt were essential to quality campus environments:

- **An emphasis on walkways and bike paths** that encourage pedestrian use and access, rather than on ringing campuses with more parking lots.
- **The preservation of open spaces and sacred ground,** such as the Lawn at the University of Virginia and the Oval at The Ohio State University.
- **A limit to campus size;** the discouragement of sprawl and unchecked growth, enemies of good campus planning.
- **Buildings that are serviceable,** aesthetically pleasing, and constructed on a human scale.
- **Exterior and interior spaces** for individual and small group use.
- **Integrated placement of housing and academic buildings** so that, as much as possible, the campus is experienced as true community, not simply as two distinct sets of buildings for separate uses.

To the best of our ability, this publication reflects the many viewpoints of both presenters and participants at the First International Symposium on Preserving a Quality Environment for Learning. Our thanks to all who attended for sharing their knowledge; to our editor, Carole Gerber, for organizing and writing the publication; and to The Ohio State University Publications Office for its design and the University Printing Facility for printing.

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PART

A Recommitment to Quality at Wayne State

At Wayne State University—one of the nation's largest urban universities located in the heart of Detroit, Michigan—a new commitment to re-establishing a quality learning environment literally changed the school's destiny during the early 1970s. Bounded on two sides by expressways and surrounded on the other two by urban slums, enrollment at Wayne State had declined because students found the university unattractive and unsafe. No rivers flowed through its campus, no rolling hills or wooded areas broke the starkness of cold cement.

In an effort to attract students, in 1970 George Gullen, Jr., then vice president for University Relations and later president of Wayne State, instituted a comprehensive effort to create a quality environment for learning. Working with an alumni group called the Wayne State Fund, Gullen developed the Campus Beautification Program whose purpose was to rehabilitate and beautify a 65-acre traffic-free "superblock" in the heart of Wayne State's 90-acre main campus. Nearly treeless and marked with thousands of feet of crumbling curbs and old road beds, the area's lack of landscaping and physical beauty did nothing to soften the starkness of the campus' modern buildings.

Ask alumni from several different colleges to list the most important ingredient of an outstanding campus environment, and chances are each will respond with a different answer. The Kenyon graduate, for example, is likely to talk about the grace and tranquility of a small campus in a rural setting. The University of Michigan alumnae will probably mention the excitement of a bustling urban environment. The individual who attended the University of Virginia is bound to mention the beauty of the Lawn and the respect for history engendered in those who matriculated at "Mr. Jefferson's university."

It's obvious, then, even to the casual observer that enormous variations exist among campuses in architecture, design, landscaping and that indefinable "feel" of the place that makes each unique. There are major regional differences between campuses in the United States, and even greater diversity is apparent when American and European campuses are compared. Rural and urban campuses project different images, as do public and private institutions.

Clearly, the ambiance of a campus is of aesthetic importance to faculty, staff and students. But what effect, if any, does the campus environment have on the overall quality of academic life? Efforts to enhance the appearance of campuses are not based strictly on aesthetic considerations—there are also practical reasons for creating and maintaining beautiful surroundings.

For instance, administrators have learned that an appealing, well maintained campus positively affects recruiting. Parents, alumni and other potential donors also react favorably to quality learning environments, as do potential new faculty. In short, the very survival of the university depends on the maintenance of the buildings and grounds of campus environments.

Sculpture Court at Wayne State University features statues of Giacomo Manzu, "The Nymph and the Faun." (Slide courtesy of Wayne State University)

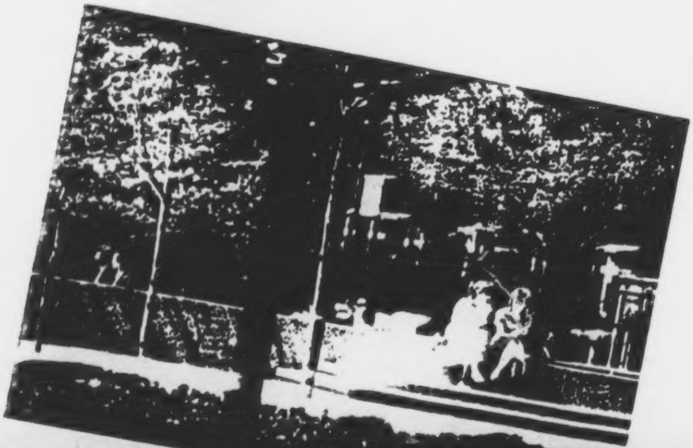
The purpose of the Campus Beautification Program encompassed more than rehabilitating and landscaping an unattractive environment. Its goals also included tying the campus together in terms of pedestrian circulation, traffic patterns and accesses, ease of maintenance, and safety, through a comprehensive outdoor lighting program. Paid for with several million dollars in gifts from individuals and foundations, as well as with $169,000 grant from the U.S. Department of Housing and Urban Development, the Campus Beautification Program transformed the heart of the campus into a safe and comfortable haven.

City streets that dissected Wayne State were closed, and malls, walkways and courtyards were installed in their place. Hundreds of trees were planted along both sides of six-block-long Anthony Wayne Drive, around the School of Medicine, and on other streets. In addition to their beauty, the trees serve as buffers to sound and pollution from the nearby freeway, and as shelters from Detroit's fierce summer heat. Small sculpture courtyards were built and large flower-filled planters distributed over the area. Building facades were cleaned, kiosks and benches were installed, and run-down streets were repaired with decorative paving.

The primary architecture firm for most of the projects coordinated through the Program was Beckett Jackson Raeder Inc. of Ann Arbor. The Wayne State Fund, which raised more than three million dollars in private donations for beautification, initially recruited alumni and other volunteers to maintain the area because money was unavailable to hire sufficient groundskeeping staff. Additional university landscaping staff has since been hired, and an adequate security force patrols the area.

Today the once-dilapidated campus is an oasis of physical beauty in the midst of an urban environment that remains shockingly unattractive and crime-ridden. Wayne State's investment of time and money to create a quality environment paid excellent dividends: Students have returned in great numbers to the university's campus, and the once-questionable future of the institution has been turned around.

Students relax on the Gullen Mall, named after George Gullen, former president of Wayne State University, who was a major force behind improving the campus environment. (Slide courtesy of Wayne State University)



Another view of the Sculpture Court featuring a work titled "Assunta" by Georg Kolbe. (Slide courtesy of Wayne State University)

A STUDY IN CONTRASTS

The architecture of the University of New Mexico in Albuquerque has a distinctly regional appearance reflecting the Spanish and Indian heritage of a state where eight Indian languages are still spoken and Spanish is an official state language. (Slide courtesy of the University of New Mexico)

Based on a 1893 master plan by architect Henry Ives Cobb, the design of the University of Chicago clearly reflects its urban character. (Slide courtesy of the University of Chicago)

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The inviting expanse of the Lawn at the University of Virginia embodies founder and architect Thomas Jefferson's plan for a village green as an integral part of an "academical village" whose design fosters dialogue between faculty and students. (Slide courtesy of the University of Virginia)

View of the Main Building of the University of Uppsala. Founded by Archbishop Jacob Ulvsson in 1477, Uppsala University, located in east central Sweden north of Stockholm, is the country's oldest university. (Slide courtesy of Uppsala University)

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THE OHIO STATE UNIVERSITY

[redacted]

Students make use of both formal and informal outdoor seating spaces. *(Slide courtesy of The Ohio State University)*

The results of a 1986 study conducted at The Ohio State University, based on personal interviews with more than 500 students and 240 faculty members, support the idea that the university community believes the physical environment of the campus positively affects the quality of teaching and learning. The study, conducted by The Ohio State University Physical Facilities, Equipment and Library Committee for the North Central Association Accreditation Process and chaired by architecture professor Paul Young, found that campus buildings and grounds support learning in two ways: directly, by serving as repositories of information, and indirectly, by encouraging a spirit of creative discovery among students and faculty.

Based on its research, the committee proposed a number of strategies that university planners can implement to maximize the potential of their campuses as quality environments for learning. The strategies can be implemented through minor projects, including routine maintenance, and in major ways, such as large capital improvement projects involving new construction, additions, and remodeling.

Architects and landscape architects obviously assume a leading role in determining the form of each campus' buildings and spaces. However, the major determinant of a university's evolving architectural setting comes not only from architects but from those responsible for physical facilities and maintenance. By setting the priorities, and by identifying the concepts and strategies that guide campus design, they help to set the historical tone of the university.

The following recommendations are part of The Ohio State University Plan for Improving the Quality of the Campus Environment. Developed specifically for Ohio State, the Plan's strategies are quite "portable" and most can be implemented on other campuses.

To prepare the necessary material for an architect or planner to carry out the strategies, it is important to have available as resources the history of campus buildings, the university photography collection, the campus map collection, and university archives. Monographs focusing on specific components of the campus are also helpful. Examples of campuses that fulfill certain aspects of the Ohio State Plan are included in later sections of this publication.

Components of The Ohio State University Plan:

I. Providing a unified academic community.

Providing a unified academic community relates to basic planning decisions that influence the arrangement of disciplines on campus as well as architecture and landscape architecture principles such as the achievement of a sense of order, rhythm, balance and harmony.

At The Ohio State University, strategies for achieving a unified academic community include:

a. Grouping basic disciplines around a central green space.

At Ohio State, this green space is the 27-acre Oval which serves as the university's central park—a memorable open space at the heart of the campus. Obviously, not all disciplines represented at such a large university could be directly positioned around our central space. However, the plan calls for actual or symbolic placement of all basic disciplines around the Oval.

Aerial view of the Oval in autumn. The shape of the Oval has remained virtually unchanged since 1901. (Slide by Lloyd Lemmermann, courtesy of The Ohio State University)

b. Grouping applied disciplines in a secondary concentric zone around the central green space.

These applied disciplines shall be placed near the basic disciplines to which they are related and organized into identifiable areas connected to the Oval by carefully designed vistas, landmarks and networks of paths.

c. Creating an identity for each major discipline.

Each discipline area or group of disciplines should have its own "sense of place" created by quadrangles, landmarks, gateways or other methods of enhancing that part of campus. These areas should also be related to the Oval by designed vistas, landmarks and networks of paths. It is important that these disciplines have separate identities that are also part of the total campus.

d. Creating an integrated network of memorable outdoor spaces.

A major design consideration of each new construction should be the extent to which an existing campus space can be enhanced or a new space created. These spaces should be identified with a discipline or an important campus activity and be part of a network of paths and spaces contributing to an overall sense of unity.

e. Developing the Olentangy River area as a unifying aesthetic asset to the campus.

The Olentangy River appears to be the west boundary of the central campus. However, because disciplines such as agriculture and veterinary medicine are west of the river, it actually splits the campus near the center. As is the case with many campuses having river sites, Ohio State, until recently, has considered the river to be a liability rather than an asset. The 1962 master plan proposed exploring the aesthetic potential of the river. Drake Union, constructed in 1972, is an example of a building that makes creative use of the river site in its location and design.

Pedestrian walkway across the Olentangy River which flanks the Drake Union. (Slide courtesy of The Ohio State University)

f. Creating campus boundaries that serve the overlapping interests and needs of the university and the city.

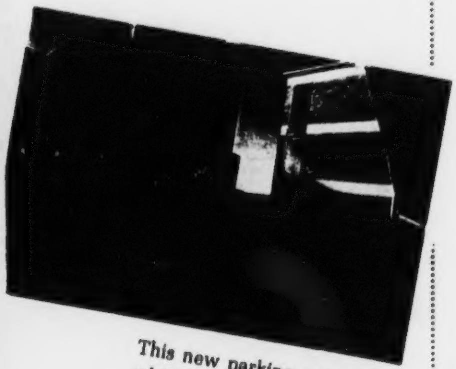
Although there is an internal logic to locating service, parking and athletic/recreational activities at the edge of the campus, care must be taken to prevent conflicting interests where the university and the community meet.

Logical fulfillment of this strategy will result in the location of services and heavy research facilities where the campus borders city industrial zones; student housing and community-related functions where it meets residential areas; and museums, galleries, and auditorium functions where it meets the city commercial districts. This strategy is currently being carried out effectively along North High Street where the Wexner Center for the Visual Arts has precipitated major public and private improvements along the east side of High Street, and where the Ohio Union Parking ramp has been made available to High Street traffic.

2. Developing a pedestrian campus.

A quality learning environment is enhanced by the ability of the residents of the university community to move freely through the campus, to enjoy campus spaces and to engage in activities undisturbed by the confusion and hazards that occur when vehicles and pedestrians share space.

Strategies for achieving a pedestrian campus include:



This new parking garage, which is conveniently located to campus, features a walkway providing easy access to nearby medical facilities. *(Slide courtesy of The Ohio State University)*

a. Providing horizontal or vertical separation between circulation routes used both by pedestrians and vehicles.

This strategy requires that facilities for pedestrians be separated from those for vehicles, either through their separate placement or through the development of bridges or tunnels separating them where their routes would otherwise conflict. The pedestrian bridges over Cannon Drive are examples of successful implementation of this strategy.

b. Locating parking facilities at the perimeter of pedestrian areas.

Siting parking facilities away from pedestrian areas eliminates the need for developing extensive vehicle circulation systems to avoid penetrating pedestrian areas.

c. Developing high capacity vehicle routes that bypass the pedestrian campus.

A free-flowing, high capacity roadway around the campus perimeter enables all commuters to easily reach their destinations. This type of circulation pattern also reduces the number of locations where pedestrian and vehicle paths cross.

d. Considering the pedestrian campus concept in the design of service areas.

This strategy recognizes that regardless of location most campus facilities require some vehicular access for services such as deliveries, trash pickup and maintenance. All service courts, access routes and delivery entrances shall be designed to minimize conflict with pedestrian paths.

e. Establishing a pedestrian character on campus while simultaneously accommodating necessary vehicle traffic.

Some vehicle access will always be necessary to virtually all parts of the pedestrian campus. However, the number of specific routes should be limited and access routes servicing infrequent vehicle needs should reflect a definite pedestrian character.

f. Scheduling vehicle activities and establishing time limits on vehicle movement to periods of low pedestrian use.

In general, few trips should be scheduled during normal class hours and consideration should be given to a ban on vehicles in pedestrian areas during class change periods.

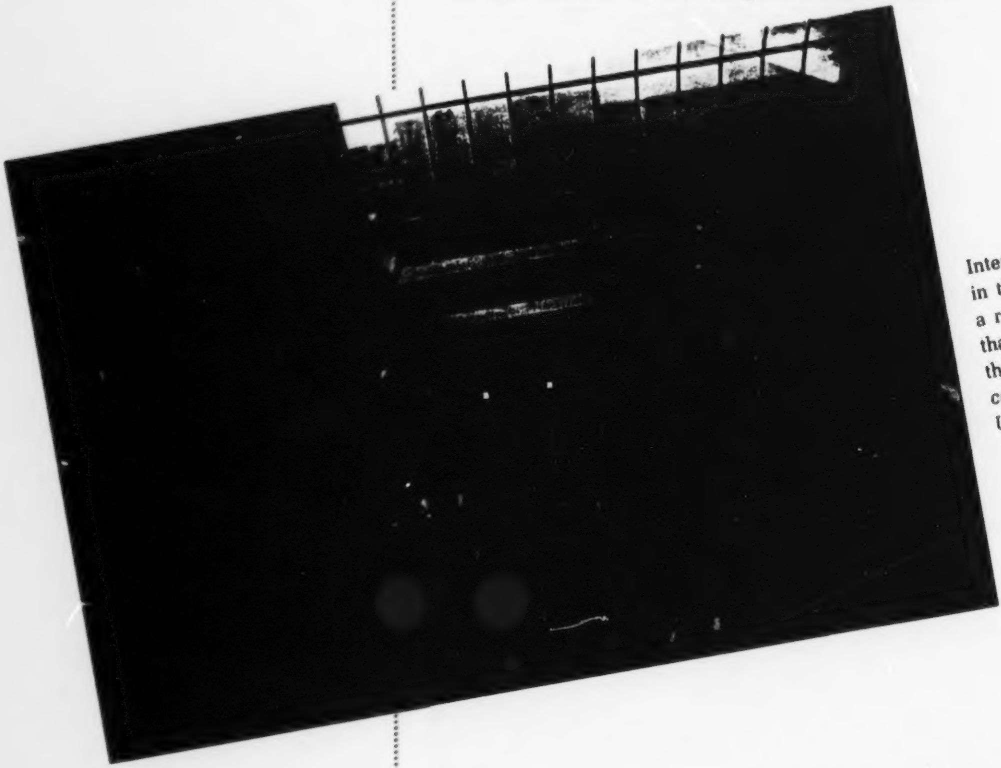
3. Enhancing the university's sense of heritage and tradition.

A campus that reminds its residents of its roots in human history offers a sense of historical place basic to a setting for scholarly inquiry.

a. Accommodating new space needs by restoring and reusing existing historically significant buildings, and constructing new buildings and additions that are architecturally harmonious with their surroundings.

At Ohio State, many well-known campus structures such as Orton and Hayes Halls, built shortly after the university's founding, have recently been sensitively rehabilitated to serve modern needs. Other less distinguished but still significant older buildings which previously were scheduled for replacement have been—or are scheduled to be—rehabilitated. The recent addition to the William Oxley Thompson Library is an example of a building extension that harmoniously relates to the existing structure.

Relating closely to the concept of providing a unified academic community, this strategy demands that all remodeling and new construction contribute to the overall unity of the campus as well as the enhancement of the sense of heritage and tradition.



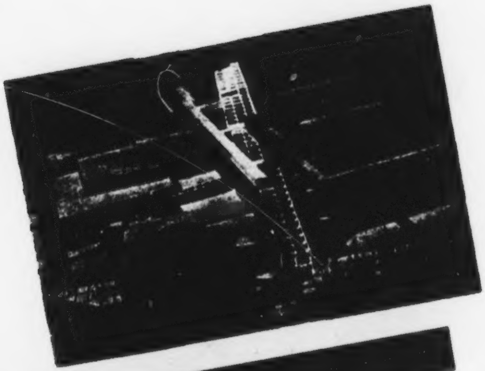
Interior view of the atrium in the Main Library, part of a recent building extension that harmoniously relates to the existing structure. (Slide courtesy of The Ohio State University)

b. Reflecting the heritage of historically significant sites in each new design.

A statement of the history and development of each site shall be included in the requirements for each capital improvement project. This statement, which includes photographs, maps and—where applicable—drawings and sketches, provides the architect or landscape architect a background from which to create literal or symbolic references that enhance the heritage and tradition of the site.

The Wexner Center for the Visual Arts illustrates one response to this strategy of reflecting the heritage of significant sites in new facilities. The memory of the Armory, burned in 1958 and razed in 1959, was preserved symbolically in the reconstructed brick towers as well as in the landscape trace of the Armory's plan.

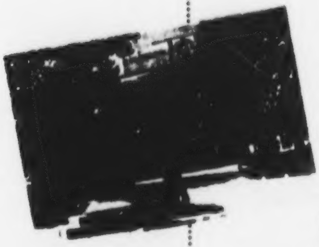
Finding a parking spot at a 1914 football game was no easy task. In the background is the old Armory, where Weigel Hall presently stands. (Photo courtesy of Photo Archives, The Ohio State University)



Model of the Wexner Center for the Visual Arts, whose design reflects the heritage of the old Armory which was destroyed in 1969. (Slide courtesy of The Ohio State University)

c. Creating interior and exterior architectural and landscape architecture projects that commemorate distinguished university alumni, faculty and staff.

Similar to the reflection of the history of the site, this strategy enhances the heritage of the university through commemoration of the contributions of individuals from the academic community. Descriptions of commemorative requirements shall be part of the program for selected architecture and landscape projects. However, departments are encouraged to propose commemorative projects independent of their capital improvement program.



Erected in 1930, and paid for by the classes of 1923, 1925, 1926 and 1928, this statue of former university president William Oxley Thompson stands in front of the Main Library at the Oval's western edge. (Slide by J. Kevin Fitzsimons, courtesy of The Ohio State University)

d. Developing an inventory of commemorative project designs for consideration by potential donors.

Using both inhouse staff and associate architects, landscape architects and designers, the university should develop an inventory of commemorative projects to be implemented as donors are identified. The projects need not be designed in detail. Creation of the inventory should incorporate strategies related to other concepts in these guidelines.

Ivy growing beside the entrance to Orton Hall, built in 1893 of Ohio stone. *(Slide courtesy of The Ohio State University)*

4. Supporting the learning process.

Campus buildings and grounds support learning both directly as repositories of information and indirectly through an environment that encourages a spirit of creative discovery among students and faculty.

Strategies for implementation include:

a. Incorporating an aspect of the discipline served in each new design. Orton Hall, the geology building, is an excellent architectural illustration of the integration of an aspect of a discipline within the design of the building serving that discipline. The geological theme of Orton Hall includes the use of Ohio stone arranged in the same relative position as it occurs in the bedrock of the state.

The red sandstone grotesques located just below the tower's conical roof are derived from prehistoric creatures that once lived in this part of the world, and both interior and exterior sculptures include fossils as well as mythological images of man. Chadwick Arboretum, which extends throughout the campus, is another example of the integration of a university discipline into a landscape architecture design.

b. Creating interior and exterior study areas appropriate for the disciplines served.

Public lobbies and corridors as well as designated study spaces are included in this strategy. Thoughtful consideration to microclimate, along with the design of appropriate furniture and furniture groupings, permits the use of outdoor study space during all but the coldest months.

c. Establishing exhibition and display areas and special learning spaces as part of the program for all major capital improvements.

Museums and galleries are clearly important to a university's environment. In addition to encouraging capital improvement projects that specifically serve these functions, this strategy requires that these activities be considered in the design of each major project. It is especially important that such space be provided in the areas that serve disciplines. Although separate space may not always be allocated, both public and private programmed spaces should encourage exhibitions and informal teaching opportunities.

d. Incorporating academic themes in routine architecture and landscape architecture designs.

One way this can be accomplished is through the use of designs that trace the development of a discipline throughout its history. Representatives of each discipline are encouraged to propose academic themes to be used in new designs that are available to prospective donors and thus independent of capital improvement programs.

e. Developing indoor and outdoor spaces that encourage the exchange of ideas.

These spaces for interaction should be considered in the design or redesign of each corridor, lobby, entrance, and other public places.

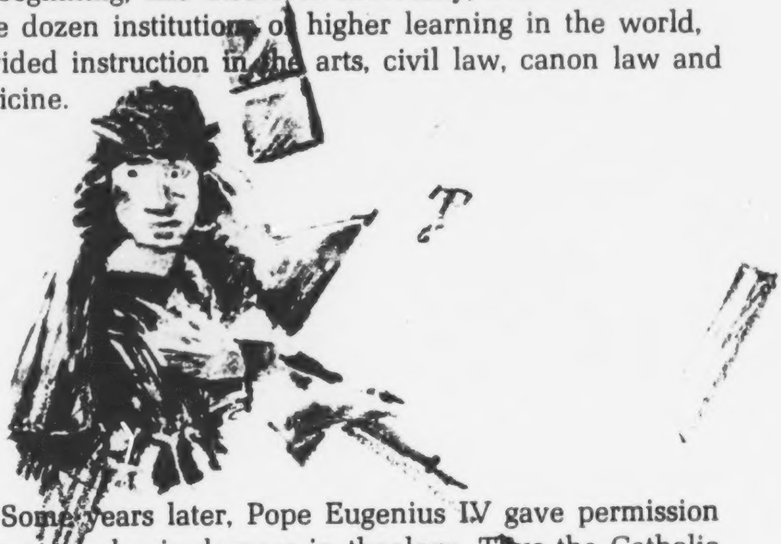
View of the Orton Hall tower, which features sandstone grotesque below its cone-shaped roof. *(Slide courtesy of The Ohio State University)*

EARLY EUROPEAN AND AMERICAN UNIVERSITIES

Forerunners of Modern Universities

It wasn't until the late middle ages that the university as we know it today—complete with buildings, grounds, and libraries—came into being. The early medieval university, in many ways a prototype for modern institutions of higher learning, possessed few, if any, permanent physical facilities. Instead, education was an *ad hoc* activity that took place in rented or public spaces. In the oldest medieval institutions found at Bologna, Paris and Oxford, groups of students lived in rented houses where they were instructed by a master. In England, these houses were known as halls and the master was called the principal.

Most of the medieval universities in Europe were established by Papal decree. The only one to remain Catholic is the Catholic University of Leuven in Leuven, Belgium, established in 1425 by the request of Duke Jan IV of Brabant and modeled after the University of Paris. At the beginning, this medieval university, one of the first three dozen institutions of higher learning in the world, provided instruction in the arts, civil law, canon law and medicine.



Some years later, Pope Eugenius IV gave permission to grant academic degrees in theology. Thus the Catholic University of Leuven became a *Stadium Generale*, a complete academic university of its time. The university quickly established itself as a respected institution and by the turn of the 15th century had attracted such scholars as Adrian of Utrecht, who later became Pope Adrian VI, and the humanist Erasmus.

Restoring and Modernizing The Grand Beguinage

Founded in 1232 along the River Dijle on a spot adjoining the medieval city walls of Leuven, the Grand Beguinage through the centuries housed between 200 and 300 women belonging to the religious order of Beguines. Beguines, whose status fell between that of nuns and lay persons, lived together in a religious community and supported themselves through handiwork or teaching. Over the centuries, the community died out and their 90 dwellings became the property of the state, which rented them out to the poor.

View of St. Nicholas House, Grand Beguinage, at the Catholic University of Leuven, Belgium. *(Slide courtesy of the Catholic University of Leuven)*

In 1962, all the buildings except the church were sold to the Catholic University of Leuven with the stipulation that the university restore the Beguinage according to the guidelines established by the National Trust for Monuments and Landscapes of the city of Leuven. Restoration of the ▸

College of Pope Adrian VI at the Catholic University of Leuven, Belgium. *(Slide courtesy of the Catholic University of Leuven)*

Back yard of a restored house in the Spanish Quarter of the Grand Beguinage at the Catholic University of Leuven, Belgium. *(Slide courtesy of the Catholic University of Leuven)*

College of Premontre, at the Catholic University of Leuven, Belgium. *(Slide courtesy of the Catholic University of Leuven)*

As the influence of the university grew, a remarkable building expansion occurred during the latter part of the 16th century, and 27 new colleges were added before 1599. Although the destruction of many wars took their toll, several of these colleges, such as the Pope College, the Viglius College and the College Van Dale, have been restored and still exist on the campus of the Catholic University of Leuven. The most ambitious restoration project undertaken by the university during the post-war period was the restoration and modernization of many buildings of the Grand Beguinage.

area, which measures about 17 acres, included rehabilitating 86 houses, an infirmary complex and an orphanage, as well as reconstructing streets and sewers, and equipping the area with modern plumbing, lighting and heating.

Among the guidelines governing the restoration were the decisions to carry out selective rehabilitation measures that respected the individual character of each building, the preservation or return to the buildings' Spanish brick facades, and the application of present-day materials where required, including the use of linoleum on floors and the application of modern roofing materials.

The restoration, which started in 1964, continued without interruption until the end of 1970. At this time, 188,500 square feet of building space had been restored. Between 1970 and 1975, due to restricted funds, the project progressed at a slower pace, but an additional 27,000 square feet were restored. Because funds ran out, a street with 13 houses remains unrestored. The major restored area of the Grand Beguinage now provides the university with a residential quarter featuring 65 single units of study-bedrooms, seven double study-bedrooms, 50 studios, 79 apartments, 17 family houses, one community center serving more than 450 residents and a faculty club. Total cost for the project was 272,928,000 Belgian francs.

Early American Universities

In the new world, the first universities followed the English model in which residential colleges were associated with a master teacher. For example, during most of the first century at Harvard, the nation's oldest university established in 1637, the teaching staff consisted of the president and three or four young tutors, each of whom took over an entering class and conducted it through all subjects for four years.

A major change in educational philosophy occurred when in 1817 Thomas Jefferson used funds from the state legislature to establish the University of Virginia, an institution based on a humanistic rather than on a religious concept. This humanistic approach to education, combined with the democratic ideal of the right of all citizens to have the opportunity to better themselves, resulted in passage of the Morrill Act in 1862.

The Act gave each state land from the federal government on which to build one or more state colleges to educate its citizens in agriculture and the mechanical arts, as well in the liberal arts. Architectural studies were not formally available in the United States for several more years, when the Massachusetts Institute of Technology and the University of Illinois opened schools of architecture in 1870.

With the birth of the state university system in the United States, education was taken out of the realm of the elite and placed within the reach of the ordinary citizens who needed agricultural and mechanical skills to settle the land. By 1900, the idea of offering students both basic and applied disciplines in American colleges and universities had been accepted by private as well as public institutions.

This Old Main building constructed in 1851 at LaGrange College in LaGrange, Georgia is representative of hundreds of other Old Mains built during the 19th century. Many of these old buildings still stand as central and beloved components of campuses. (Slide courtesy of Richard Longstreth)

Constructed during the post-World War II building boom, McCutcheon Hall at Miami University reflects a reverence for tradition. (Slide courtesy of Richard Longstreth)

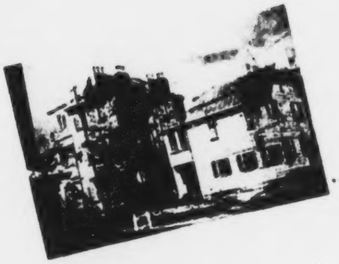
Morse and Stiles Colleges at Yale, constructed by Eero Saarinen. (Slide courtesy of Richard Longstreth)

A respect for a campus' historical character does not mean that new buildings should duplicate older structures. This recently-completed biochemistry laboratory at Princeton looks like no other buildings on campus but tries, in various ways, to converse with them and to address some of the siting problems of the campus as a whole. (Slide courtesy of Richard Longstreth)

Changing Views Toward Campus Architecture

For many years, relatively few college buildings in the United States were considered to be of historic value, and most campus architecture was dismissed by experts. Among students, faculty and alumni, however, there has always been an enormous feeling of sentiment for their campuses' buildings and grounds, especially for the schools' first buildings generically referred to as "Old Mains."

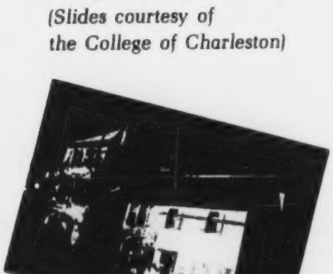
There are also many other buildings, such as libraries, gymnasiums and auditoriums that contribute to this broad-based feeling of sentiment. Often these buildings are fondly remembered because of the activities that took place there. This sentiment, together with a lack of funds for new construction and the concept of universities as upholders of tradition, are major reasons why so many historic collegiate buildings still exist.



College of Charleston: 'Gems in a Crown'

One of the most comprehensive and effective preservation efforts undertaken by a college or university was conducted during the 1970s at the College of Charleston in Charleston, South Carolina. Founded in 1770, the school is the 13th oldest college in the United States, the oldest municipal college in the country and the oldest in South Carolina. The College boasts a long and distinguished history—among its founders were governors, ambassadors and signers of the Declaration of Independence. Recent graduates include leaders in many fields and two South Carolina governors.

Before and after views of two structures at the corner of Green and St. Philip Streets. The white house was owned by the family of Mrs. Sally Johnston, described in the Charleston census as a "free person of color," for more than 100 years. The College bought it in 1972, restored it and now uses it for office space. The restored Martindale House beside it is one of the College's smallest buildings. *(Slides courtesy of the College of Charleston)*



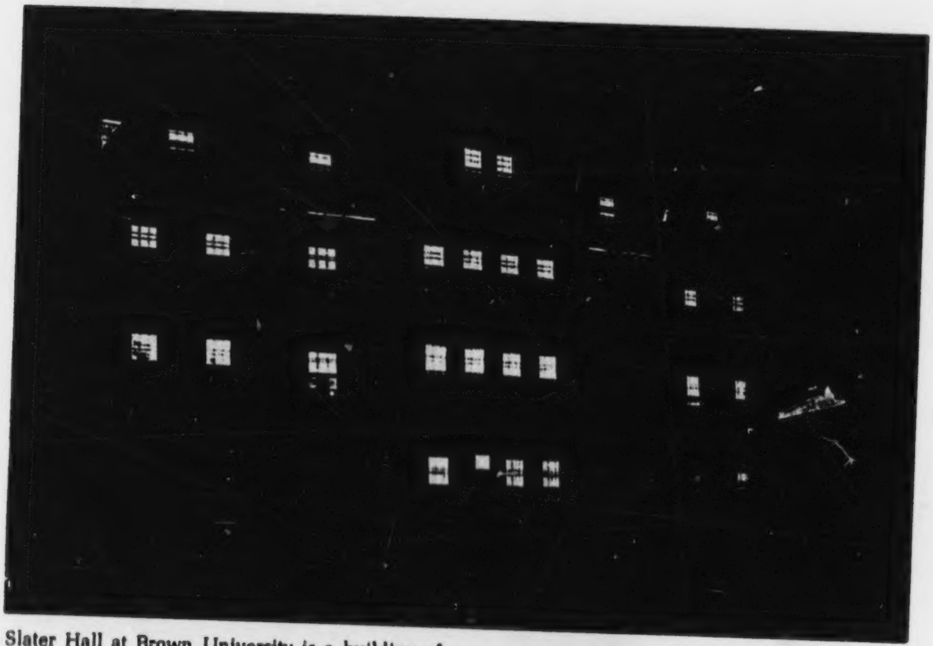
On many campuses, new buildings constructed before and after World War II continued to reflect the traditional character of those places. In some instances, the spirit of early 20th century master plans was followed to ensure that traditions remained intact. At Johns Hopkins University, for example, planners were still developing variations on the 1904 master plan in the 1950s. On other campuses, new expansion programs incorporated a respect for tradition. When Miami University in Oxford, Ohio enlarged its campus in the 1950s, the design of the new buildings continued to reflect a traditional concept of the campus.

The counterthrust was the tendency on other campuses to depart from traditional imagery and was based on the idea that the university should be on the cutting edge of architecture, as it is supposed to be on the cutting edge of new ideas. Before and after World War II, several campuses made this decisive step toward embracing modernism in architecture. Among the noteworthy examples are the new campus for the Illinois Institute of Technology and new buildings at Harvard and Yale. By 1956 all these places had become showcases for major new works of architecture.

The pendulum began to swing back toward tradition on most campuses during the late 1960s when some architects became concerned about addressing the relationship between new buildings and the historic character of campuses. At Rice University, for example, planners have taken a leading role in building on an old master plan rather than introducing radical departures.

Other campuses, such as the College of Charleston, have preserved their own buildings and expanded the campus by purchasing and restoring older structures in the surrounding community. The 1970s restoration effort at the College of Charleston exemplifies the recognition over the past two decades that campus architecture of the 18th and 19th centuries made significant contributions to the history of American architecture as a whole—not just on such widely-praised campuses such as the University of Virginia, but on many other campuses as well.

It is not difficult to find an extraordinary number and range of important works of campus architecture. Many examples are significant from a national or statewide perspective, and many more possess local significance. One of the major contributions of the National Historic Preservation Program in the past 20 years has been the advancement of the concept of local significance. Very simply, that concept of local significance states that buildings of historic significance to a community are just as important as those that are significant to the nation as a whole.



Slater Hall at Brown University is a building of great local significance. *(Slide courtesy of Richard Longstreth)*

Originally designed as a library, this remarkable building constructed during the mid-1800s at the University of Pennsylvania reflects an exuberant high Victorian manner and was also an unusual work in the history of library design. *(Slide courtesy of Richard Longstreth)*

This exterior view of the Towell Library, built in Classical Revival style and embellished with Italianate details, was built in 1855-56. Restored in 1972 it now serves as the Admissions Office. *(Slide courtesy of the College of Charleston)*

Despite its proud past, by 1970 it was clear that this private college had fallen on hard times. Located in the heart of Charleston's historic district—a rundown area that was also going to seed—the school's enrollment had dropped to well below 500 students. Few new buildings had been erected at the College for 105 years, and trustees and administrators realized that drastic measures were required if the College was to survive.

An interior view of the restored Towell Library named in honor of professor and former dean Edward Emerson Towell. *(Slide courtesy of the College of Charleston)*

To finance desperately-needed expansion and improvement efforts, in 1970 the school joined South Carolina's public higher education system. Shortly thereafter, a master physical development study was conducted and a capital improvement plan prepared. The plan provided for expansion of the College at its present location, with state funds allocated to rehabilitate existing buildings and acquire and restore rundown historic buildings in the surrounding 10-block historic area.

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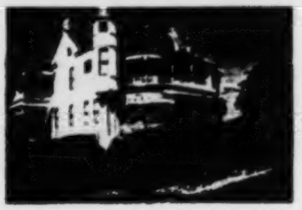
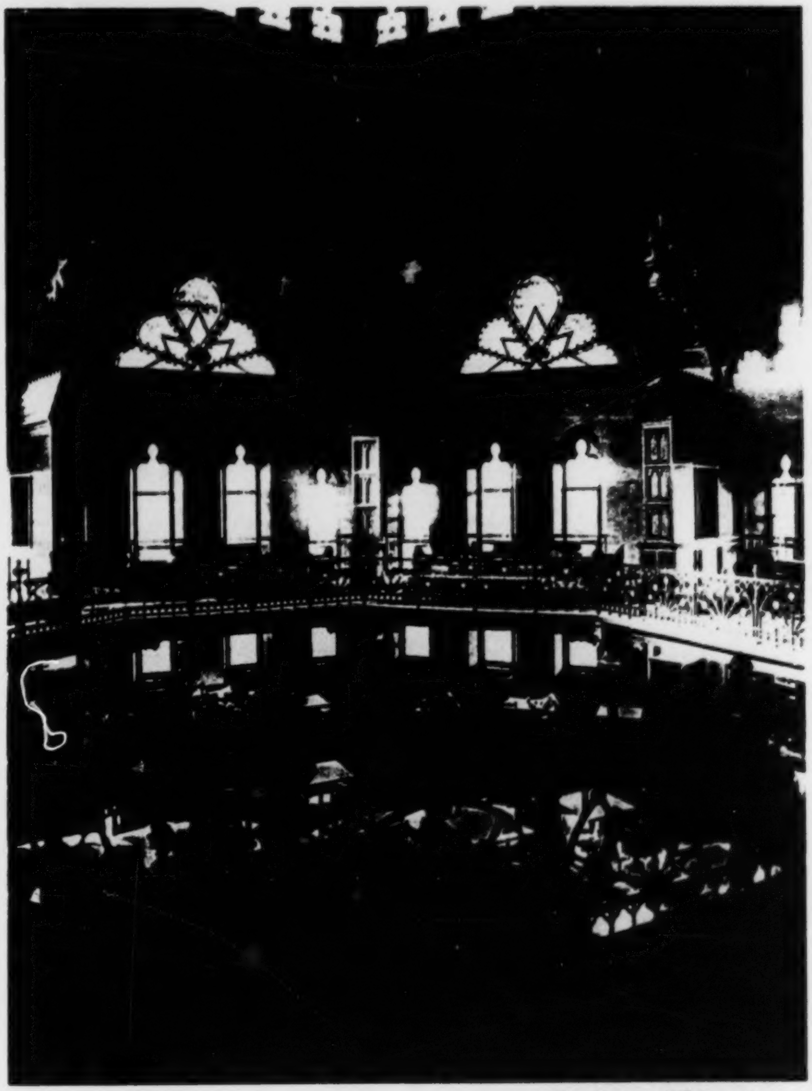
Built in 1890, Sottile House, now a dormitory at the College of Charleston, is a fine example of the Eastlake School of Victorian architecture. *(Slide courtesy of the College of Charleston)*



This view shows Sottile House, which the College acquired in 1964, before restoration. *(Slide courtesy of the College of Charleston)*

From the historian's standpoint, local history is important because we are looking not just at the major monument but also at broad patterns that have occurred across regions and across the nation, and to examine why these have happened and what they tell us about the culture. In many instances, at least part of the significance of a building may be because there are so many buildings of a particular type/style—as in the case of "old mains"—that they represent a widespread pattern.



The Greene Library at Princeton University. *(Slide courtesy of Richard Longstreth)*

The capital improvement goal was to "make maximum use of available land while enhancing the character of the existing campus and creating a learning atmosphere to support the educational, architectural and aesthetic appointments historically associated with the campus." To ensure the goal was met, the project's eight architecture and landscape architecture firms worked closely with the College's president, Theodore S. Stern, who served from 1968 to 1979, and a President's Advisory Committee on Area Preservation made up of architects, historians, preservationists, and citizens knowledgeable about Charleston's history.

Under their guidance, restoration efforts flourished—between 1970 and 1980 more than 80 old buildings were rehabilitated and a number of new buildings erected. Two streets were converted to pedestrian malls, brick-on-sand paving was laid on all walkways and courtyards, authentic gates and lampposts were installed, and a landscape design patterned on the city's old-fashioned urban gardens was implemented throughout the area.

The restored structures were complemented by carefully-sited new buildings featuring contemporary designs of warm-toned brick and stucco. Cost for restoration and renovation ranged from $17 to $22 per square foot, compared to $34 to $45 per square foot for ▸

Restoration and Adaptive Use of Older Campus Buildings

Decisions about whether to restore or destroy old campus structures are very difficult ones indeed. The sentimental feelings of alumni, faculty and students about a particular old building are complicating factors in what is at best a complex process. All old buildings are not necessarily worth preserving, and, among alumni, there is often such a tendency to focus closely on "rescuing" an older structure that the building's impact, or lack of impact, on the overall campus environment is forgotten.

Unlike sentimental alumni, administrators and planners faced with the practical issues related to retrofitting and historical preservation focus on the difficulties of adapting older campus buildings to modern uses. The temptation to tear the old building down and start over is usually great, for many old structures are not easily adapted. Because of their high ceilings, broad corridors and huge entrance halls, they are usually difficult to make energy efficient. A more difficult problem is adapting the space to fit modern needs.

The standard size office space in old school buildings, for example, is usually two or three times the space of modern office buildings, and many university decision-makers feel that no renovation can make that wasted space cost-effective. Another major problem involves making older buildings accessible to handicapped individuals. Old buildings' narrow doorways, absence of ramps, elevators and specially-equipped restroom facilities require major structural changes to ensure that they meet buildings codes for handicapped access.

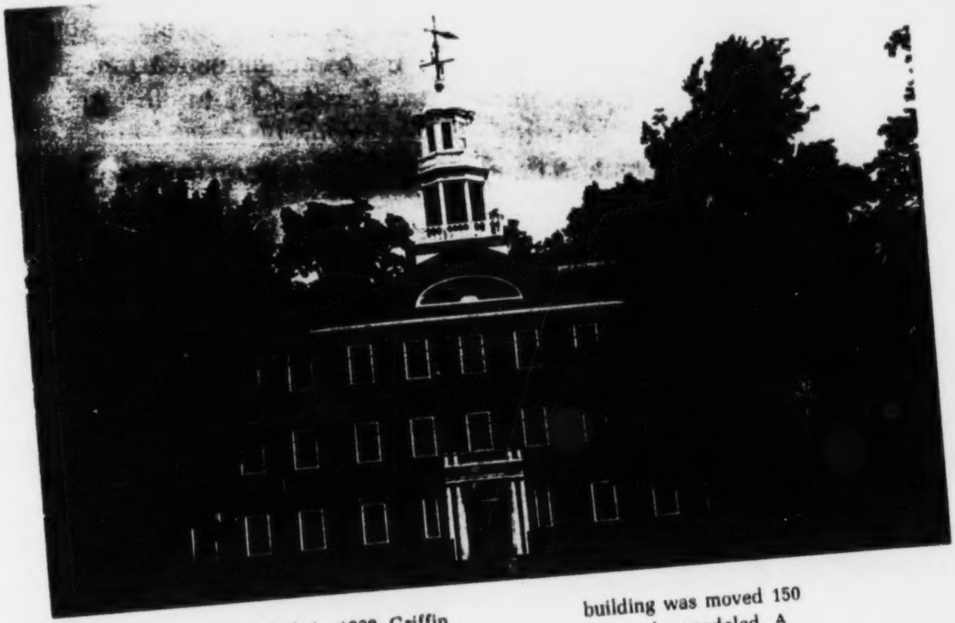
Lack of women's restrooms and the need for air-conditioning are two other costly issues of concern to university decision-makers weighing the benefits of retrofitting versus tearing down old campus buildings.

new buildings. Seventy percent of the restored buildings were previously private homes featuring styles that range from Federal-style townhouses to Eastlake Victorian. They are now used by the College for offices, faculty homes, dormitories, fraternity and sorority houses, laboratories and classrooms. More than 5,300 students—a tenfold increase over 1970 figures—are now enrolled at the College of Charleston.

Fifty-five of the restored buildings contain less than 5,000 square feet, 46 percent are more than 120 years old and eight percent are more than 170 years old. Some of these buildings feature curved turrets, marble mantels, crystal chandeliers, delicate woodwork, oak floors, stained glass windows and other distinctive features, making these lovely old buildings among the finest restored structures in the United States.

Merchants and homeowners in neighborhoods bordering the campus area have also completed extensive restoration. Crime rates have dropped and property values near the College have risen. Current College of Charleston president Dr. Harry M. Lightsey, Jr. has vowed that his administration will continue to preserve and maintain the College's older properties.

Finally, in addition to considering the costs of retrofitting the buildings to meet codes for health, safety, fire and handicapped access, decision makers must ascertain whether space can be carved from the building to meet the modern need for which it is intended.



Built in 1828, Griffin Hall at Williams College has been remodeled and adapted many times. Constructed at a cost of $6,000 during the term of Williams' third president, the Rev. Edward Dorr Griffin, the building originally had a double entrance. Presently used for classrooms, Griffin Hall has served as a chapel, a library, and for a brief period at the beginning of the 20th century, housed the town bank for the City of Williamstown. In 1904 the building was moved 150 feet and remodeled. A chapel was constructed on its original site. Another remodeling occurred in 1952, and Griffin Hall is presently slated for major remodeling to meet new building codes. The general condition of the building, which has a wooden structural framework, is rated by the Williams College Office of Physical Plant as "fair." *(Slide by Blake Gardner courtesy of Williams College)*

Though much beloved, the College's older properties—like other historic buildings—lack many modern amenities. A frank description of the buildings' drawbacks in the College's 1985-86 annual report listed the following: none have storm windows; most have no insulation and are not on the underground steam and chill water system or the centrally-metered electrical distribution system; most need to be upgraded to comply with electrical and plumbing code requirements; most are not accessible to the physically handicapped; most lack central heating and air-conditioning systems; and the interior and exterior walls of all the buildings require more frequent repair and repainting than those of new buildings. The report states, "These are fragile buildings . . . although their uniqueness carries with it great charm and beauty, the distinction of the campus often obscures the [buildings'] problems. . . ."

Because their beauty is so highly valued by a city that treasures its 3,000 historic buildings, those at the College of Charleston have been described as "gems in a crown."

The Post World War II Building Boom

Of the tens of thousands of college buildings on American campuses, more than 80 percent have been constructed since World War II. Even more startling is the fact that more than half of all American campuses—many of these are junior colleges—have been built since World War II. As a result of this unprecedented growth, American campuses—which had long thought of themselves metaphorically as "cities of learning"—began to compare themselves to cities in more practical terms: urban sprawl, parking problems, housing demands and other headaches that had long plagued cities now visited themselves on college campuses as well.

During this period, American universities were viewed as growth industries. Curricula were diversifying, graduate education was dramatically expanding, and budgets were fat. Architecturally, however, it was a dismal time. The post-war rush to accommodate hordes of students too often resulted in a dreary monotony of nondescript buildings that reflected a confusing jumble of architectural styles. On many campuses, acres of black-topped parking lots replaced the green lawns and open fields that had given so many colleges a park-like ambiance.

The old ideal of the university as a pedestrian campus in a rural environment with a type of architecture that marked it distinctively as a setting for higher education gave way on many campuses. In its place came a smorgasboard of very specific problems paralleling those of modern cities: growth without limit, ad hoc placement of buildings, too many difficult-to-follow signposts, once-sacred green space that became, too often, merely leftover, ill-defined open spaces, a variety of building designs reflecting poorly-matched colors and textures, footpaths that became paved areas for vehicles, and vast distances separating academic

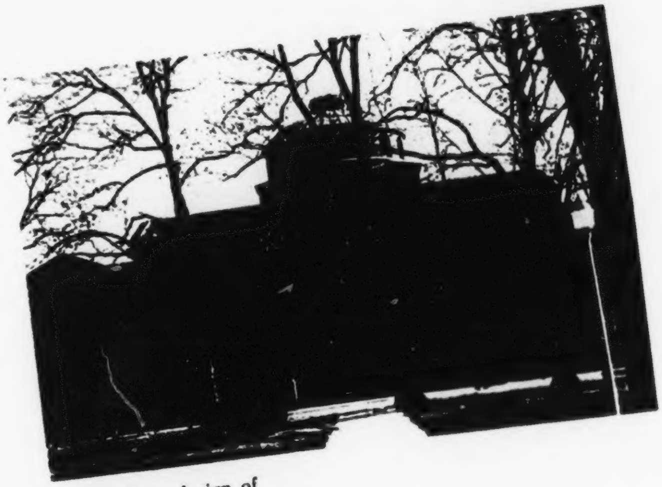
Miami University's Reponse to the Post-Boom Years

With the end of the post World War II building boom, a new era emerged: one of preservation, rehabilitation, renovation and restoration. Faced with declining enrollments and smaller budgets, universities were forced to set priorities on which buildings to save, which to adapt to new uses, and which to tear down. Miami University dealt with these challenges a decade ago when Phillip R. Shriver, then its president, appointed a Committee on Campus Historic Preservation to study these problems.

Chaired by the faculty's most respected teacher and writer, and staffed with representatives from Miami's history and architecture departments, among others, the committee was charged with the task of advising the president on setting priorities for the possible preservation of 39 university buildings, including all those constructed before 1930. ▶

Part of Miami's original campus, Elliott Hall has been extensively remodeled. *(Slide courtesy of Miami University)* buildings and dormitories.

Not all campuses succumbed to the problems plaguing cities, of course. Miami University in Oxford, Ohio, Stanford University and the University of Michigan are all examples of campuses where planning and a respect for tradition combined to ensure the design of environments on a human scale.

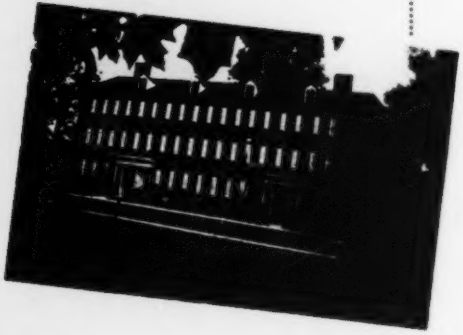


Although the design of Alumni Hall hardly suggests "form follows function," the building, with its columns, arches and domes, features some monumental qualities. (Slide courtesy of Miami University)

The task was complicated by the refusal of the Ohio State Legislature to underwrite the remodeling or renovation costs of older buildings whose principal support structures were made of wood, and those in which the cost of remodeling or renovation would equal or surpass 60 percent of their replacement costs.

In light of these constraints, Miami University's Committee on Campus Historic Preservation found it unrealistic to base its evaluations only on the historic value of the structures. Also considered was each building's present and future usefulness, as well as any fixed plans by the university related to renovation or removal. Based on these considerations, the committee grouped the structures into four categories:

- **Buildings of greatest significance for historic preservation.**
- **Buildings of functional value along with historic, architectural, or aesthetic interest.**
- **Buildings of primarily functional value.**
- **Buildings with little preservation value.**



Stoddard Hall, Miami University *(Slide courtesy of Miami University)*

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Aerial view of Stanford University's 8,180-acre campus. (*Slide courtesy of Stanford University*)

Among the 16 buildings and structures the committee found to be of greatest significance for historic preservation were Elliott Hall and Stoddard Hall. Elliott Hall, built in 1828, is Miami's oldest central campus building and the oldest university residence hall in the state. First renovated in the 1930s, Elliot Hall was recently remodeled and now houses outstanding male students.

Stoddard Hall, built in 1836, is Miami's second oldest residence hall and, like Elliott Hall, was modeled after Yale's Connecticut Hall of 1756. Also extensively remodeled in the 1930s, Stoddard has been similarly renovated to accommodate outstanding female students.

In its second category, buildings of functional value along with historic, architectural or aesthetic interest, the committee placed 12 structures, including Alumni Hall, built in 1910. For many decades the university's main library building, Alumni Hall had major additions constructed in 1924, 1952, and 1972. While a core stack area in this building still houses seldom-used library books, most of the building now serves the Department of Architecture's faculty and students.

The remaining buildings evaluated by the committee were placed in the third category of buildings to be preserved for their functional value, or the fourth category, as having little value for preservation.

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Land Use Planning at Stanford University

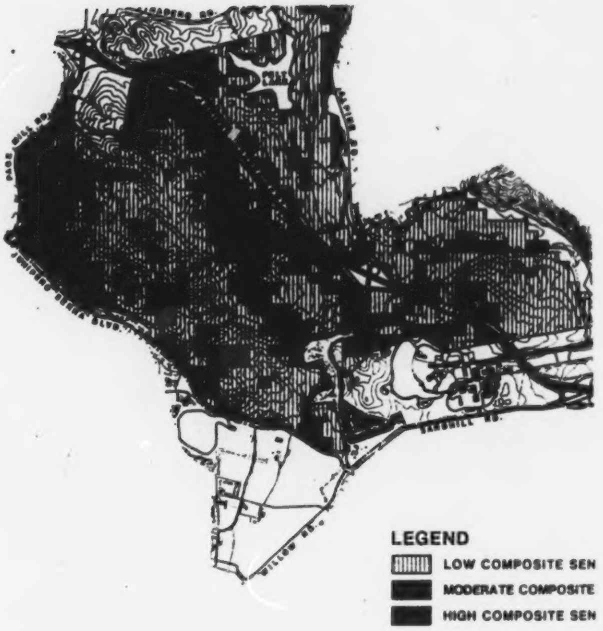
Located in the San Francisco Bay region about 30 miles south of the city, Stanford University's campus is a mixture of flatlands and foothills spread over 8,180 acres. The historic heart of the campus is the Inner Quad Courtyard, which is surrounded by tile-roofed sandstone buildings linked by arcades that were developed by founders Leland and Jane Stanford and designed by Frederick Law Olmsted and Shepley, Rutan and Coolidge in 1886.

The overseer of Stanford's campus is the Land Use Planning Office, whose staff has two missions: They function as stewards of the university's lands and as the aesthetic conscience of the university. Part of the office's stewardship role entails helping to develop and implement Land Use Plans, Campuswide Plans and District Plans. The Planning Office must coordinate these plans with local jurisdictions—two counties and four cities—in which university lands are located. Since the university's academic and research needs are not static, most of the plans developed by the Planning Office must be reviewed and often revised every five to 10 years.

The purpose of the Land Use Plan is to provide the university with policies and land use designations for the years 1980-2001. The final authority over university land use policies, which are developed in consultation with faculty and community representatives from the various juridictions, is Stanford's Provost. In addition to the land use plan, eight other campuswide plans address such issues as circulation and parking, exterior signage, outdoor lighting, landscape and architecture design, and vegetation management.

A portion of the most recent Land Use Plan is based on an environmental analysis of the campus foothill lands. The analysis enables planners to assess the use of the lands for potential programs or projects. As a result of the environmental sensitivity analysis, planners found that the oak woodlands in the foothills area were on a severe decline because cattle grazing on this leased land were also grazing on the acorns and chewing on young trees.

The solution was a Vegetation Management Plan. Implementation of this plan over the last few years has included fencing off 200 acres from cattle for 10 years to allow acorns to generate trees on their own; planting new oak trees in certain areas; and planting acorns harvested from the local area. The acorns have been sealed inside fenced enclosures to protect them from deer and gophers.



GENERALIZED ENVIRONMENTAL SENSITIVITY COMPOSITE

VEGETATION MANAGEMENT PLAN - PHASE 1
STANFORD UNIVERSITY

This generalized environmental sensitivity composite developed for Stanford's Vegetation Management Plan assessed the following features as to their relative sensitivity to their environment: slope, tree cover, hydrography, earthquake intensity, slope stability, spatial dominance, visual quality, ridges and hilltops. *(Slide courtesy of Stanford University)*

Stanford's Land Use Plan, 1980-2001. Key: Housing on the periphery is in yellow; brown shows the medium- to high-density instruction and research area; light tan depicts low-density instruction and research or athletic and recreational areas; blue indicates support service areas; green areas are academic reserve and open spaces; and gray areas are for academic-related or income property. *(Slide courtesy of Stanford University)*

The University of Michigan's North Campus Plan

The 850-acre site that comprises North Campus at the University of Michigan includes dormitories, the College of Engineering, married student housing, the School of Music, the School of Architecture and Design, a library, a student commons area, athletic facilities and other buildings. The first of six master plans for North Campus, developed in the 1950s by Eero Saarinen, established the sites for student housing and the School of Music. The first overall plan for the campus was developed in the mid-1800s by Alexander Jackson Davis, one of the foremost university architects of the period.

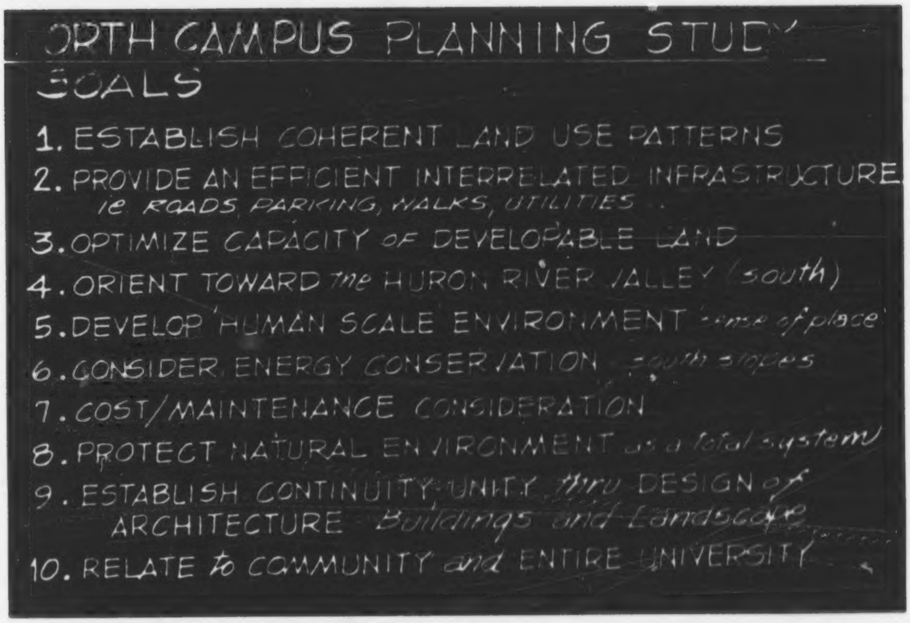
The most recent plan was created in 1985 in conjunction with the university community by the Ann Arbor-based planning, landscape architecture and urban design firm of Johnson, Johnson & Roy, which has served as the university's planning consultant since the early 1960s. A major factor in the development of the most recent plan, which sets aside land for open spaces and wooded areas, was the formation of usable development sites based upon the remaining natural system related to the Huron River Valley. It is within this physiographic system that the recent expansion of the College of Engineering

took place as a major component of the proposed plan.

Two distinct zones are represented in the new North Campus Master Plan: an academic core, which includes land for long- and short-term academic expansion as well as for increased student services and housing; and perimeter areas, which encompass land set aside for housing, service and research units as well as open spaces that include a wetland where a rare native orchid flourishes. Low-rise, rather than high-rise, structures predominate in both zones.

Other major recommendations made in the new master plan include a new entrance to the south edge of North Campus and alterations to the major north entrances to cut down on traffic in student housing areas; the addition of both surface and multilevel parking lots; a series of traffic-protected exterior walkways within a 10-minute walking circles to provide a sense of place that inspires social interaction; and the development of bicycle routes connected with the existing system to link North Campus with other parts of campus and the Ann Arbor community.

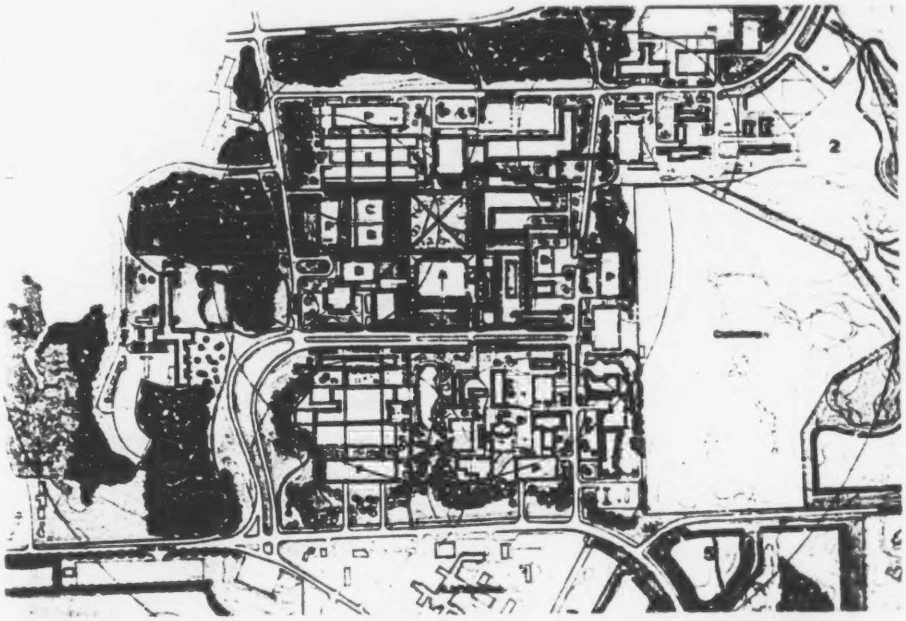
The new plan provides a framework for future use and development in areas where there is likely to be significant future expansion. It was based on the 10 planning study goals.



ORTH CAMPUS PLANNING STUDY
GOALS

1. ESTABLISH COHERENT LAND USE PATTERNS
2. PROVIDE AN EFFICIENT INTERRELATED INFRASTRUCTURE
   ie ROADS, PARKING, WALKS, UTILITIES
3. OPTIMIZE CAPACITY of DEVELOPABLE LAND
4. ORIENT TOWARD the HURON RIVER VALLEY (south)
5. DEVELOP HUMAN SCALE ENVIRONMENT 'sense of place'
6. CONSIDER ENERGY CONSERVATION south slopes
7. COST/MAINTENANCE CONSIDERATION
8. PROTECT NATURAL ENVIRONMENT as a total system
9. ESTABLISH CONTINUITY; UNITY thru DESIGN of ARCHITECTURE Buildings and Landscape
10. RELATE to COMMUNITY and ENTIRE UNIVERSITY

List of the 10 University of Michigan North Campus Planning Study Goals. *(Slide courtesy of Johnson, Johnson & Roy)*



The 1985 University of Michigan North Campus Plan, developed with community input by the firm of Johnson, Johnson & Roy, addresses six needs. These include the academic core, perimeter areas, vehicle routes, parking, pedestrian access and bicycle routes. *(Slide courtesy of Johnson, Johnson & Roy)*

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This model of a 60-place multi-discipline teaching laboratory at Wye College, University of London, is central to reorganization proposals aimed at improving the use of space and facilities. The laboratory is designed to accommodate practical work for both chemical and biological subjects. (Slide courtesy of UK *Laboratories Investigation Unit*)

Conversion of a student cafeteria at the Leicester Polytechnic School of Life Sciences into an adaptable 40-place teaching laboratory features overhead services supplies carried on demountable gantries and connected by flexible pipes to outlets on free-standing benches and sinks. Storage consists of mobile under-bench cupboards or movable components hung from a wall rail. (Slide courtesy of UK *Laboratories Investigation Unit*)

This mobile recirculatory fume cabinet is designed for chemical work requiring containment for safety or comfort. It can be wheeled into any area for independent work or used as a backup to existing ducted fume cupboards. (Slide courtesy of UK *Laboratories Investigation Unit*)

Laboratory Adaptations in the United Kingdom

Preserving and adapting older buildings for modern uses is a concern of universities not just in the United States, but throughout the world. In the United Kingdom, a group of architects and related professionals called the Laboratories Investigation Unit (LIU), established by the government in 1967, investigates and advises on ways to improve the design and use of science and technology buildings for education and industry.

Many university buildings in the United Kingdom are quite old and updated facilities are sorely needed. At one school, for example, facilities existed for a long-dead department of weaving, but no space had been planned for the new field of electronics which did not exist when the institution was established. Since the present government in the United Kingdom is officially encouraging more students at all levels to go into science programs in what it calls a "switch to science," the work of the LIU is now particularly important.

The Unit's design recommendations are based on laboratory visits and investigations into the needs of users in the United Kingdom and overseas. The ultimate purpose of all the LIU's work, whether it be the creation of new laboratories or the adaptation and

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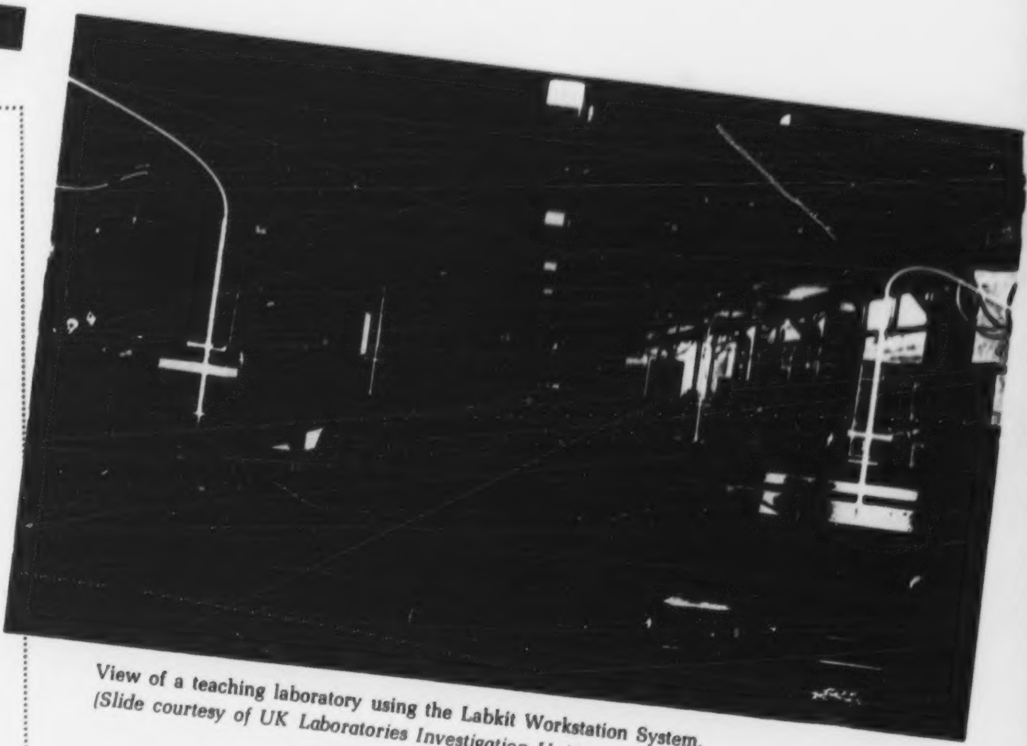
modernization of old ones, is to design flexible spaces and furnishings that can be readily adapted to meet changing needs.

Among the ways the LIU accomplishes this is through the design of free-standing lab furniture, the provision of adequate storage space, and formulation of the most efficient floor layout to accommodate particular traffic patterns. The group's design approach is based on planning for the changing needs that different users will have over the lifetime of a laboratory. Depending on the needs of the LIU client, changes may range from upgrading the lighting and adding new equipment to making basic layout changes in the lab's design.

In some cases, architects have used a computerized space allocation system to help determine optimum design for laboratory efficiency. LIU architects have also designed relocatable, self-contained laboratory kits that enable spaces to be quickly converted to laboratories to meet short-term needs. Another innovation introduced by the group has been the design and prototyping of a filter-equipped mobile fume cabinet that operates independently of a building's ventilation system.



View of a teaching laboratory using the Labkit Workstation System. *(Slide courtesy of UK Laboratories Investigation Unit)*

An Underground Treasure at the Smithsonian Institution

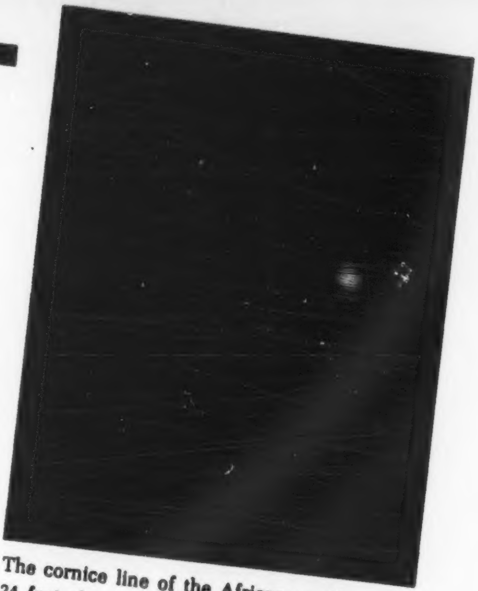
Not all learning takes place in traditional campus settings, of course. The Smithsonian Institution in Washington, D.C., the nation's foremost museum complex, provides a storehouse of knowledge to the millions that annually visit its galleries and museums.

When exhibition space and other facilities were needed for two museums at the Smithsonian three years ago, the Boston-based architectural firm of Shepley Bulfinch Richardson and Abbott provided a unique design solution: the Quadrangle Project, a $73.2 million three-story subterranean building located on a quadrangle of land bounded by the Freer Gallery of Art, the Smithsonian Institution Building, the Arts and Industries Building, and Independence Avenue. The original concept for the building was devised by the Japanese architect Junzo Yoshimura.

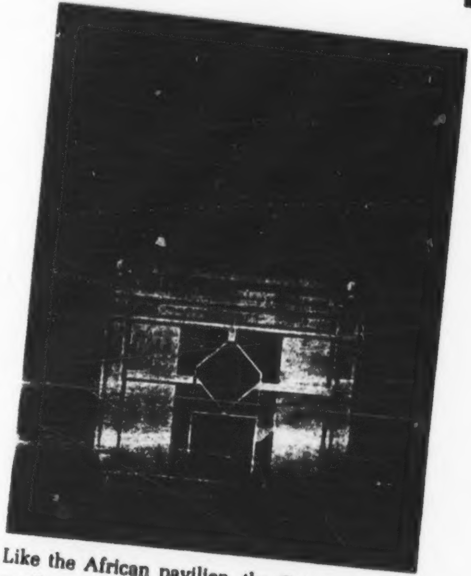
The architects' decision to go underground was influenced by the wishes of various local and national environmental watchdog groups that wanted the open space of the Smithsonian's quadrangle area preserved. Two above-ground pavilions, each about 60 x 90 ft., provide entrances near Independence Avenue to the galleries below. The domed roof of the African pavilion recalls the arch motif of the nearby classical Freer Gallery. The pyramid-style silhouette of the Eastern pavilion recalls the roof lines of the Victorian Arts and Industries Building. The cornice height of both pavilions was determined by features of the surrounding landmarks.

The building's two entryways are located amid a beautiful 4.2 acre rooftop garden which grows on approximately three-and-a-half feet of topsoil that covers its roof. The cost of the Enid A. Haupt Garden, named after its benefactor, was $3 million. It replaces and expands upon the size of a Victorian garden that previously flowered on the site.

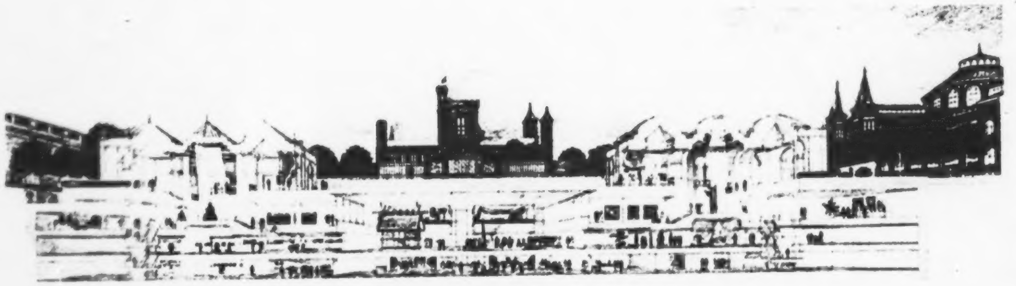
To be completed by the fall of 1987, the building houses the National Museum of African Art, the new Arthur M. Sackler Gallery, an International Center and an Education Center. Eight small granite-faced buildings, 10 x 20 ft. each, are scattered around the quadrangle to serve as emergency exits. The Quadrangle project adds 361,000 square feet of space to the museums.



The cornice line of the African pavilion is 24 feet above grade. *(Slide courtesy of Shepley Bulfinch Richardson and Abbott)*



Like the African pavilion, the Oriental pavilion is positioned to offer an unobstructed view of the Smithsonian Institution Building. *(Slide courtesy of Shepley Bulfinch Richardson and Abbott)*



View of the underground exhibit space at the Smithsonian Quadrangle Project. *(Slide courtesy of Shepley Bulfinch Richardson and Abbott)*

PART II:

The seven-campus tour for international visitors provided an opportunity to learn about a number of different types of American universities: rural and urban, large and small. Among the campuses visited were Kenyon College, the University of Michigan, the University of Virginia, Cranbrook Educational Community, Michigan State, the College of William and Mary, and, of course, The Ohio State University.

Some tours, such as those at the Cranbrook Educational Community and at Kenyon College were conducted primarily on foot, while the sights at mega-universities such as Ohio State and the University of Michigan, were often viewed from bus windows, with frequent stops for close inspections. All the campuses exemplified, in one or more ways, the guidelines for campus and landscape architecture suggested in The Ohio State University Plan.

At Kenyon College, for example, the addition of the Olin Library and the renovation of the Chalmers Library enhanced the college's sense of heritage and tradition. At the University of Michigan the breathtaking underground addition to the Legal Research Building simultaneously preserved the Gothic heritage of the law quadrangle and dramatically departed from tradition with its subterranean structure.

The libraries on both campuses exemplify the Plan's recommendation that new space needs to be accommodated by restoring and reusing existing buildings, as in the case of the Olin Library, and constructing new buildings and additions that are architecturally harmonious with their surroundings—as are the Olin Library at Kenyon and the underground addition to the Legal Research Building at the University of Michigan, albeit in spectacularly different ways.

At no campus is this respect for tradition more evident than at the University of Virginia, where students and faculty frequently refer affectionately to founder Thomas Jefferson as "T.J"—often in the present tense. History lives at the University of Virginia, not only in the classrooms but in the pavilions on the Lawn which are being restored to their former splendor.

Jefferson's original design for a village of gardens, rooms, and dining areas was meant to be "friendly to study." The Lawn at the University of Virginia, perhaps more than similar spaces at other universities, truly exemplifies The Ohio State University Plan's strategy for creating buildings and grounds that support the learning process.

Another campus exceedingly friendly to study is that of the Cranbrook Educational Community in Bloomfield Hills, Michigan. Established by George and Ellen Booth in 1932, the community was designed by some of the world's most outstanding artists and architects. The grounds, buildings, sculptures and other outdoor spaces fairly sing in a harmony that exemplifies both the spirit and the vision of a unified academic community set forth in The Ohio State University Plan.

The creation of an integrated network of memorable outdoor spaces is clearly evident, too, at Michigan State University, whose founders built broad guidelines for its present exemplary landscaping into its original charter. Its lovely and well-tended network of gardens and paths and its towering clusters of trees have made Michigan State University famous as a fine example of a classic portrait of the "campus beautiful."

"Campus beautiful" is a designation that also fits The College of William and Mary, also—along with "campus historic." Located in the heart of Williamsburg, Virginia, William and Mary also—along with most of the rest of the surrounding historic area—is primarily a pedestrian campus. Unpaved paths, small sculptures and many, many flowers add to the sense of timelessness created by the historic buildings on and around campus.

Finally, at Ohio State, around which the Plan was developed, the Oval typifies the need for all universities, especially large ones, to have sacred green spaces where all members of the academic community can gather—from the workers who tend its grounds to the faculty who teach its students. On a spring day, visitors to the Oval will clearly see the diversity—and the basic democracy—of the American academic experience reflected in activities that occur in Ohio State's great and much-loved front yard.

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KENYON COLLEGE

Postmodern Library Blends with Classic Campus Style

> *". . . a library is a sanctuary of the humanities . . . a place of resort for students . . . who are having it out with themselves about God and man and sociology and poetry."*
>
> —Robert Frost
> Speaking at the dedication of the
> Chalmers Library, Kenyon College,
> 1962

Twenty-four years after Frost's remarks at the Chalmers Library dedication, another ceremony was held at Kenyon College to celebrate the completion of the original library's renovation as well as the new 56,000 square ft. Olin Library. The new building was sorely needed because the Chalmers Library, a 46,600 square ft. facility with shelf space for 201,000 volumes and seating for 352 students, was far too small to meet the needs of Kenyon's present student population.

A private liberal arts college located in rural Gambier, Ohio, Kenyon, which became coeducational in 1969, has grown significantly in the past 10 years, from 600 men to 1,450 men and women. A major building program launched to meet the needs of a larger student body resulted in three new dormitories, an apartment complex, an additional dining room and social commons, a biological sciences building, and the Olin Library, which was completed in the summer of 1986.

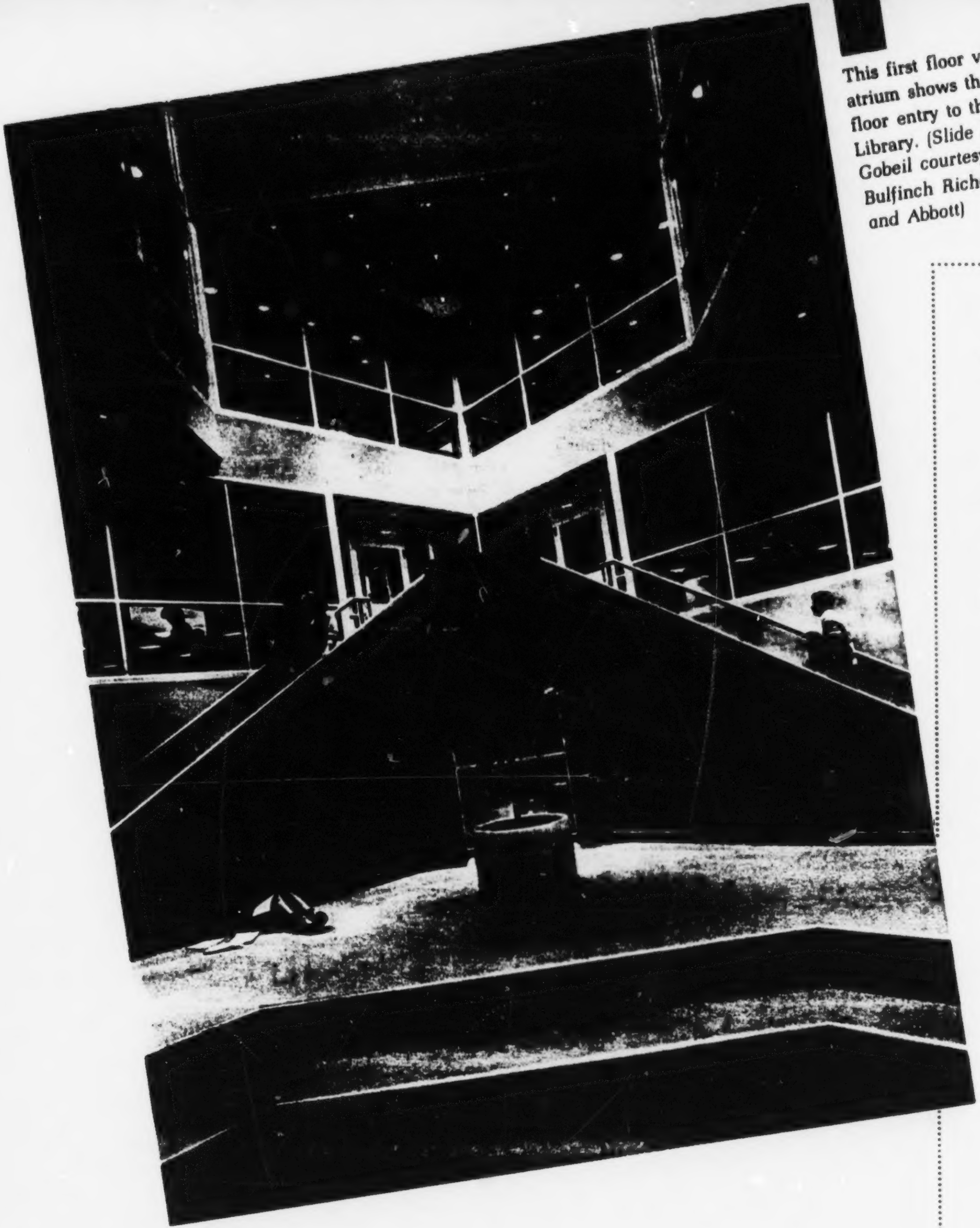
The new structures were designed to harmonize with the Kenyon campus, which is widely noted for the character, dignity and beauty of its buildings—many of which feature the towers, peaked roofs and window styles of Oxford and Cambridge. Not every campus building exhibits this classic style, however. Critics have said that the old Chalmers Library, a boxy building with a flat roof, had few design elements in common with surrounding structures. The library is located just beyond the college gates in the heart of the campus on Middle

Functions by Level of Old and New Libraries

Level I Olin
- **Academic Computer Center**
- **Olin Auditorium**
- **Audio Visual Department**
- **Special Collections and Archives Department**
- **Art Gallery**

Level I Chalmers
- **Bound Periodicals (non-science)**
- **Microforms**
- **U.S. Government Documents Collection**
- **Student carrels**

Level II Olin
- **Circulation desk**
- **Current Periodicals Reading Area**
- **Library offices**
- **Faculty offices**
- **Carrels, soft seating, tables and chairs for students**
- **Books for philosophy, religion and the social sciences**



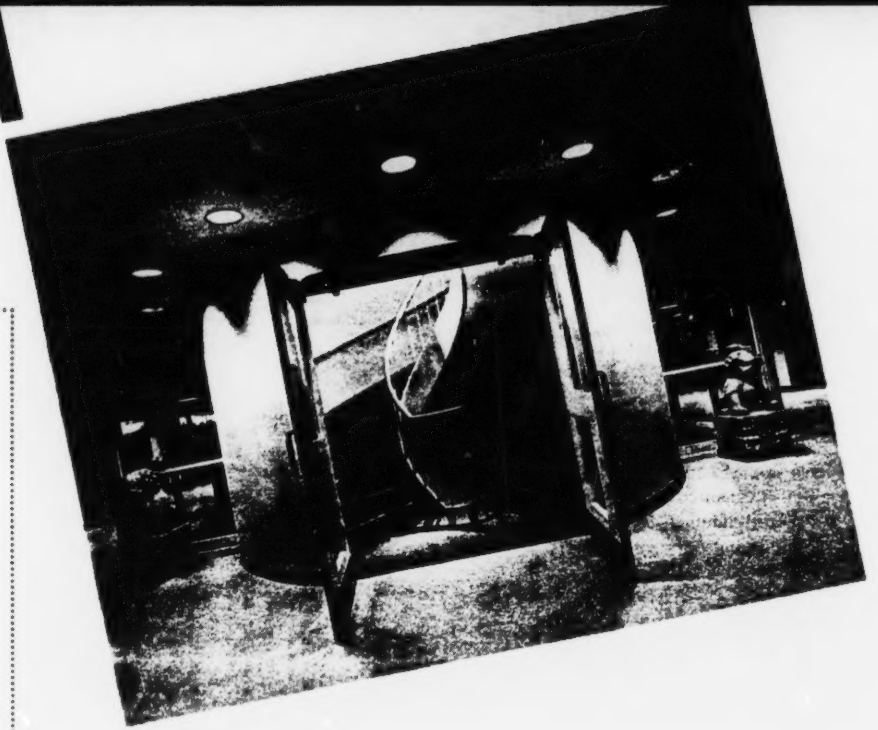
This first floor view of the atrium shows the second floor entry to the Olin Library. (Slide by Paul Gobeil courtesy of Shepley Bulfinch Richardson and Abbott)

Level II Chalmers
- **Reference Department**
- **Card Catalog**
- **Course Reserve**
- **Technical Services Department**
- **Administrative offices**
- **Carrels, soft seating, tables and chairs for students**

Level III Olin
- **Seminar rooms**
- **Group study**
- **Faculty offices**
- **Carrels, soft seating, tables and chairs for students**
- **Books for art, literature and history**

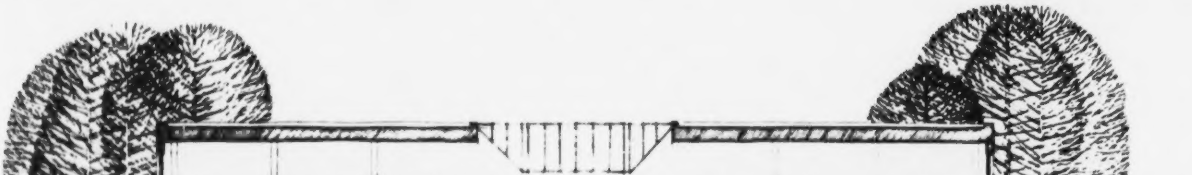
Level III Chalmers
- **Science collection**
- **Science bound periodicals**
- **Science current periodicals reading area**
- **Library offices**
- **Carrels, soft seating, tables and chairs for students**

This view of Kenyon's new Olin Library from an east elevation shows how effectively the roofline reflects the classic style of older Kenyon buildings. (Slide by Paul Gobeil courtesy of Shepley Bulfinch Richardson and Abbott)



A modern barrel design encloses the staircase that joins the library's three floors. A winding handrail gives the stair a classic look. *(Slide by Paul Gobeil courtesy of Shepley Bulfinch Richardson and Abbott)*

This artist's rendering of the Olin Library shows all three floors from a western and a southern view. *(Art courtesy of Shepley Bulfinch Richardson and Abbott)*



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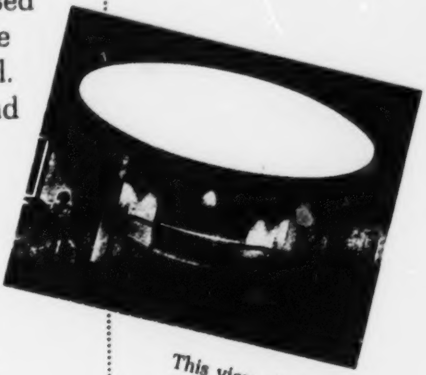
Path, which runs south from the front door of the building known as Old Kenyon to the front door of Bexley Hall at the north.

Because many people felt the Chalmers Library never quite suited the campus, one of the design challenges of the firm selected to construct a new library was to create a new library beside the old one that made it appear to blend more skillfully with Kenyon's style. The firm, Boston-based Shepley Bulfinch Richardson and Abbott, assigned Geoffrey Freeman as principal-in-charge, Paul Sun as architect and Jonathan Ross as project architect. Extensive renovation of the Chalmers Library, which involved considerable rearrangement of the distribution of space and functions, also constituted a major part of the project.

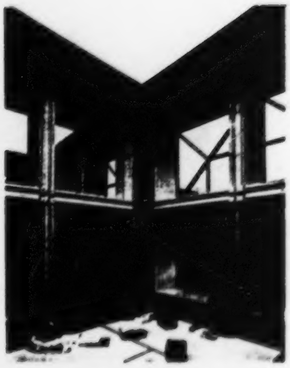
In more than doubling the size of the existing library, the total Olin facility had to function as one fully integrated building with new and old construction virtually indistinct from one another. Yet one of the terms of the $5.5 million grant from the New York-based Olin Foundation which funded the project was that the Olin and Chalmers buildings not share a common wall.

In addition, an art gallery and computer center had to be housed in the Olin Library. Another important requirement for the Olin Library was that there be a ground-level entrance with no external steps so that handicapped access was easily available. This type of entrance also minimizes maintenance.

The design of the new library also had to satisfy other requirements: seating for 534 students; plenty of room for open stacks; adequate space for staff and faculty offices and seminar rooms; a typing room and a group study room for students; and space for an audio-visual center and a special collections department. In addition, the lighting system in the old Chalmers Library had to be updated to match that installed in the Olin Library. Add to these architectural givens the need to satisfy a college community that reveres the campus' traditional ambiance, and the magnitude of the challenges confronting the architects becomes even more apparent.



This view shows one of two entrance vestibules to the library. Note that a lack of stairs facilitates handicapped access. (Slide by Paul Gobeil courtesy of Shepley Bulfinch Richardson and Abbott)



A reading/study group room in the Olin Library exhibits an airy, spacious feeling. (Slide by Paul Gobeil courtesy of Shepley Bulfinch Richardson and Abbott)

Since the Olin Library could not share a common wall with the Chalmers Library, the architects located it parallel to the old building, which is 12 ft. to the west, and joined the two with a two-story mirror glass link forming the passageways between the two buildings. Rather than using new sandstone on the building's exterior that would not have matched that on older neighboring structures, precast concrete panels with exposed aggregate were employed. The aggregate complements, but does not match, the sandstone on surrounding buildings and also stands as a different and more contemporary exterior treatment.

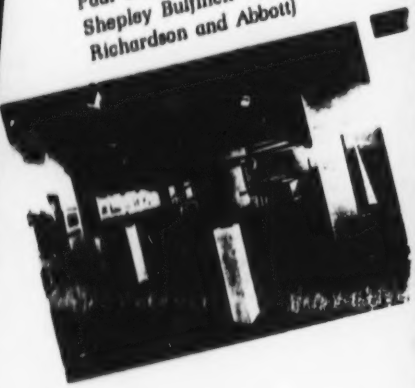
Inside, the atrium, filled with plants and informal furniture groupings, is an inviting place for students to relax. Smoking in the library, once permitted as a long-standing Kenyon tradition, is now restricted to the atrium. One disadvantage of the atrium is that some noise does carry into the Olin and Chalmers libraries, but complaints from students are few. Visible from the atrium is a large, enclosed barrel stair that is placed between two glass-enclosed reading rooms and joins the Olin Library's three floors.

The more public areas of the Olin Library are located on the first floor, which houses the art gallery, the 70-seat auditorium and the academic computer center. The second floor is the main entrance to the library proper, where Circulation, Technical Services and Reference Departments are located. Carrels, tables, chairs and lounge seating are included on this floor, which also includes a spacious current periodicals area. On the third floor are additional stack and reader areas, as well as faculty and group study areas.

Throughout the building, lighting is appropriate to function: direct and indirect lighting was installed in study areas, low glare lights were put in the computer area, track lighting was placed in the gallery, and special bookstack lights were installed in the stacks. As part of the renovation of Chalmers, lighting was updated to match the quality of illumination in the Olin building.

According to the client report filed by Kenyon's library director with the American Institute of Architects, the firm of Shepley Bulfinch Richardson and Abbott met the design challenges posed by the Olin Library/ Chalmers Memorial Library project in a "brilliant and innovative way." The report further states ". . . the architect's design not only satisfied our requirements but did so with maximum efficiency and high aesthetic impact."

A more traditional looking reading/study group area is located in the space connecting the Chalmers and Olin buildings. *(Slide by Paul Gobeil courtesy of Shepley Bulfinch Richardson and Abbott)*

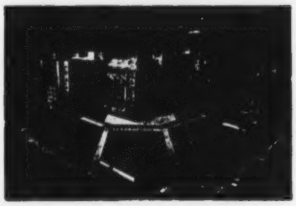


Gallery space equipped with track lighting, located on Olin's first floor, is used to display student art. (Slide by Paul Gobeil courtesy of *Shepley Bulfinch Richardson and Abbott)*

UNIVERSITY OF MICHIGAN

A Subterranean Storehouse of Knowledge

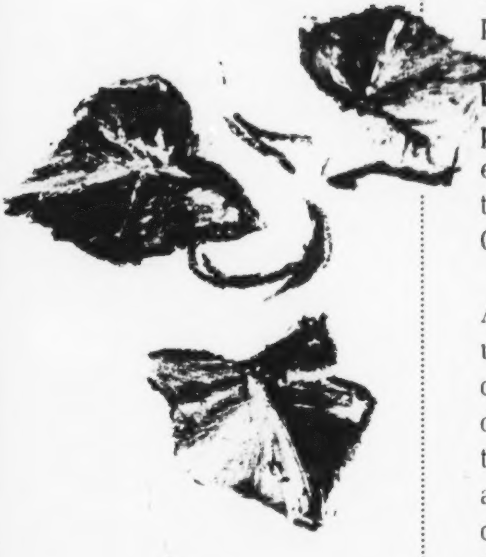
> *"This is probably the most esthetically satisfying large underground building to have penetrated American soil . . ."*
>
> —Andrea Oppenheimer Dean
> AIA Journal
> January 1983



The only sign of the below ground Law School Addition at the University of Michigan is a low strip of canted glass topped by a solid bronze rail. *(Slide courtesy of Gunnar Birkerts & Associates)*

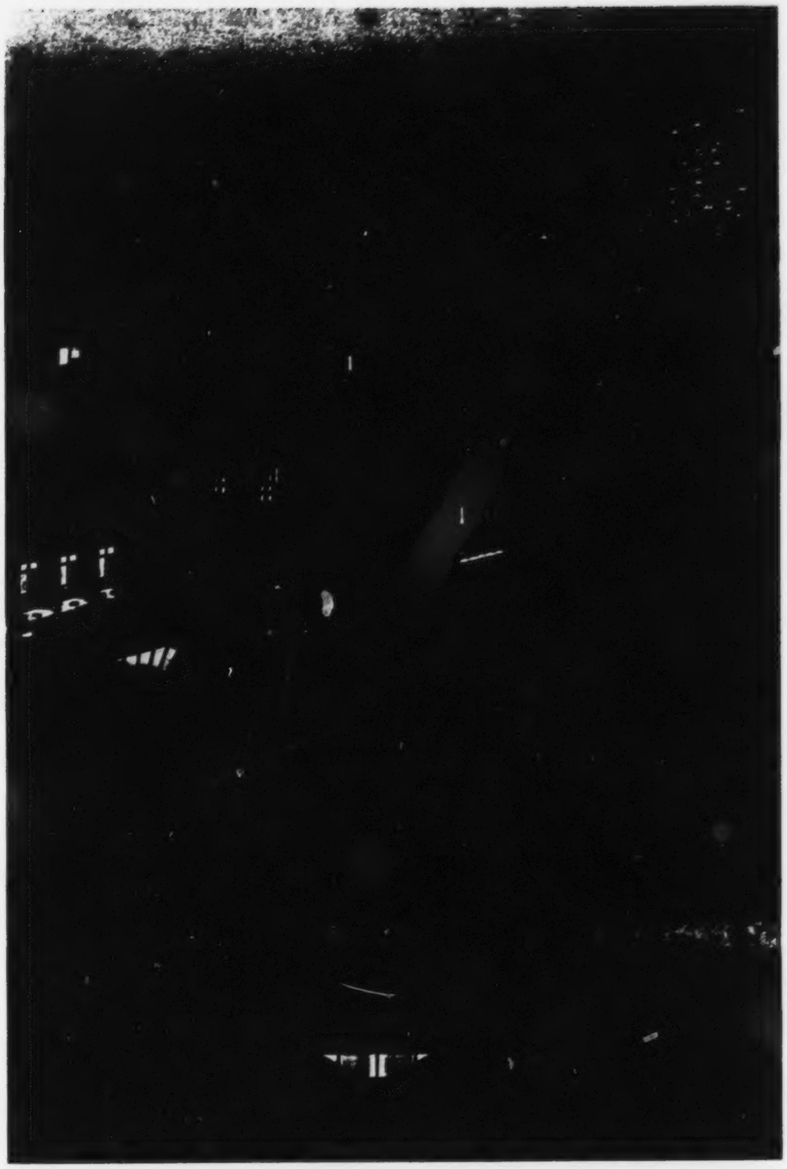
The magnificient underground addition to the Legal Research Building at the University of Michigan is so appealing to students that guards must keep undergraduates out. Otherwise, it's feared they would take over law students' study areas in this graceful, light-filled structure.

Built in 1981 at a cost of $9.5 million in privately-raised funds, the L-shaped addition is one of several underground university libraries in the United States. The building was one of five library projects to win a 1985 Award of Excellence for Library Architecture in the 11th Library Buildings Award Program sponsored jointly by The American Institute of Architects and the American Library Association. The library awards are given annually by the AIA and ALA's Library Administration and Management Association to encourage excellence in the architectural design and planning of libraries.

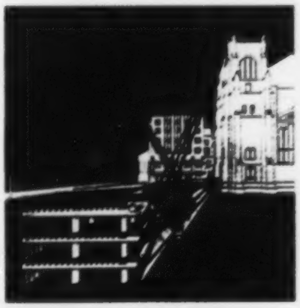


In making the award, the jury cited the concept of below ground expansion as "a masterstroke of campus planning and design." The jury added, "The architect enriches the place by brilliantly leaving the corner of the quadrangle open, thus emphasizing the existing neo-Gothic tower with the new library below grade."

Designed by Gunnar Birkerts of Gunnar Birkerts & Associates, Inc., of Birmingham, Michigan, the underground addition is the solution to an architectural challenge created by the imposing buildings that dominate the law school quadrangle. Rather than ruin the architectural integrity of the Gothic style quad with an obvious orphan of an above-ground building, Birkerts chose to place the 77,000 square foot structure beneath the earth. In excavating 56 feet below ground level,



A tranquil night view of the Gothic mother building and the Addition from the southeast. (Slide courtesy of Gunnar Birkerts & Associates)



Section perspective of the old and new law buildings. *(Slide courtesy of Gunnar Birkerts & Associates)*

engineers and contractors constructed a steel-reinforced concrete wall along the existing Law Library building to ensure minimal disturbance to the foundation of the older building. A major plus to this subterranean design is natural insulation from the elements—heating and cooling the building requires significantly fewer BTUs than would be necessary for a similar sized above ground structure.

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Birkerts has said that in designing the building he confronted three major problems: 1) building a below-ground space that would be humane, inspiring, and that would contribute to the process of acquiring knowledge; 2) figuring out how to overcome the natural psychological shock people feel when going into an underground space; and 3) finding a way to maintain the quality and spirit of the old Gothic "mother building" to which the underground addition is connected.

Looking out at a reflected view of the mother building mirrore on skylight mullions. (Slide courtesy of Gunnar Birkerts & Associates)

The intent of the architect was to make the building a place of "light and enlightenment," and to "keep an eye on the mother all the time, to look at her, to be in dialogue with her." These goals were met in a number of ways, the most obvious of which is the 150-ft. vaulting skylight that admits sunlight into all three stories and, with the aid of large, three-ft. deep mirrors placed perpendicularly along the skylight mullions, creates a close visual connection with the outdoors and the "mother building" that faces it. The mirrors' reflective properties also reduce the degree of glare and direct sunshine entering the building.

Light is bounced between the skylight, which is bronzed to cut down glare and excessive sun-generated heat, and the slanting, three-story limestone panels that face it across a one-story trench. Together, the skylight, trench and limestone form a V-shaped moat that serves as the building's principal external design element. Along the bottom of the moat is a heated water pipe for melting accumulated ice and snow. Ivy is planted along the moat's walls to soften the appearance of the structure. The ivy can be cut back to bring more light into the building, or allowed to grow profusely if the library staff wishes to reduce the amount of light.

A fine description of the importance of the light-gathering and distribution function of the moat is contained in the March 1982 *Architectural Record:* "This surface is, in effect, the workhorse of daylight distribution, its texture diffusing illumination received from the skylight deep into areas on both legs of the L. More important psychologically, the bright sunlit expanse is visible to anyone sitting or standing well inside the building. . . . a smaller triangular well provides backlighting in the underground space."

On the building's bottom level, which is set 56 feet underground, are the *Law Review* offices, stacks and a student lounge. Stacks and study carrels, wired for computers, are located on the second level. Each student is allocated one-third of a carrel and—in their first exercise in negotiation—students work out their own

Looking down on an underground interior space filled with color, light and plants. *(Slide courtesy of Gunnar Birkerts & Associates)*

Open stacks and study area are delineated by brownish carpeting. *(Slide courtesy of Gunnar Birkerts & Associates)*

sharing arrangements. On the top floor, set 20 feet underground, are offices, reading areas and card catalogs. Stacks, carrels and reading areas are in the rear of the building, away from the skylight.

The building's three floors are connected by a grand staircase whose large steps combine with balconies facing the skylight on each floor. Another broad stairway connects the old library with the addition. Birkerts has described this connection as "keeping always a finger in the mother's lap." Grass green carpeting on balconies and the grand stairs cuts noise and reinforces the outdoor feeling of the building. Brownish-tan carpeting in the stacks, offices and study areas creates a more serious atmosphere. Carpeting on the walls in some areas also helps dampen noise, but a disadvantage of the building's design is that sound travels easily in the large, open space. Birkerts has been involved in most of the building's interior details, including designing the oak library tables, selecting rugs and furniture fabrics, and harmonizing interior colors with exterior landscaping.

Despite the fact that noise carries in its open vertical and horizontal spaces, the building has few detractors and provides dramatic and desperately-needed space for more offices, carrels, and part of the library's 600,000-volume collection, which has quadrupled since the original building was constructed in the 1930s. Except for certain documents, books in the addition are accessible in open stacks. The building's size and design were planned with the future in mind: 15,000 square feet of reserve storage space stands empty to help house the growth of the collection over the next 20 years.

Birkerts' Law Addition has been called a "quietly accommodating companion" to the old Gothic building. In a statement to the American Institute of Architects, the library's director wrote: "The statement that 'the library building satisfies the requirements of the library 'design program' cannot begin to describe our delight and satisfaction with the Law Library Addition. The open, airy quality; the views of sky, trees, and the Gothic parent building; and the ease and effectiveness with which one can operate the library, all contribute to the judgment of faculty, staff and students that the building is a success."

A long, open view of the library interior that shows the green-carpeted stairs linking it to the Gothic mother building. *(Slide courtesy of Gunnar Birkerts & Associates)*

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THE UNIVERSITY OF VIRGINIA

Preserving Mr. Jefferson's Academical Village

> *". . . those whom nature hath endowed with genius and virtue should be called to that charge without regard to wealth, birth or other accidental condition or circumstance. . ."*
>
> —Thomas Jefferson
> A Bill for the More General Diffusion of Knowledge
> Introduced in the Virginia Legislature, 1779

Jefferson's academical village, viewed here from the terraced greenspace known as The Lawn, remains essentially unchanged since its completion in 1826. ***(Slide courtesy of the University of Virginia)***

It was 38 years before the radical idea Jefferson introduced unsuccessfully to the state legislature came to fruition with the creation of his academical village at the University of Virginia. Designed and built between 1817 and 1826, the academical village was planned by the then 74-year-old Jefferson as an environment that would stimulate the free flow of ideas.

The university, said Jefferson "will be based on the illimitable freedom of the human mind." In an innovative departure from the curricula in place at other universities, theology was not offered. Instead, science, agriculture, the classics and modern languages constituted the 10 courses of study.

Each curriculum was reflected in the distinctive architecture of 10 major two-story buildings, called pavilions, which are set in two parallel lines on either side of a grassy open rectangular area called the Lawn. Between each pavilion are one-story student dormitory rooms; dormitories and pavilions are unified by one-story colonnades. More student rooms, dining halls and walled gardens Jefferson designed to be "friendly to study" are set behind the pavilions. The pavilions, planned as a living architectural encyclopedia, are each based on an ancient or Roman building style.

The columns in Pavilion I, for example, are modeled after the Baths of Diocletian. The Rotunda, located at the north end of the Lawn, is a half-scale brick model of the Roman Pantheon, which was built of stone. Professors' rooms, located above lecture rooms, students' rooms, and dining halls—called hotels—were laid out in close proximity to encourage social and academic interaction.

Native timber, slate, stone and locally-fired brick were used in the construction, which was personally supervised by Jefferson, who rode down the mountain from his Monticello home each day. Tied onto his saddle was one of his many inventions—a collapsible three-legged seat that enabled him sit down anywhere at the construction site.

Construction was completed in 1826, the year of Jefferson's death on the Fourth of July. Among his considerable achievements, Jefferson had singled out only three he directed to be inscribed on his tombstone: author of the Declaration of Independence; author of the Statute for Religious Freedom in Virginia; and the father of the University of Virginia.

Unfortunately, it did not take long for the weather wreak damage on Jefferson's beautiful village—records indicate buildings looked shabby within 15 years following his death. Until recently, major preservation efforts included only the Rotunda, which was rebuilt with modifications in the 1890s following a fire, and restored in the 1970s to Jefferson's original design.

Because of lack of funds for maintenance, there has been much deterioration to the fabric of the other buildings. In many cases, the bricks, mortar, wood, metal and paint were in poor condition. Interiors were littered with radiators and pipes and window air conditioners were obtrusive and ugly. Now a major fundraising campaign has brought private contributions to supplement the limited funds granted by the state legislature, and preservation efforts are well underway. For example, about 50 percent of the white wood and metal trim has been painted and some of the pavilions have been restored.

A fine example of the research, planning and intricate craftsmanship that has gone into preservation efforts is the restoration of Pavilion VIII. The philosophy

View across the Lawn of one of 10 pavillions Thomas Jefferson designed for his "Academical Village" at the University of Virginia. ***(Slide courtesy of John Kleberg)***

Jefferson directed that part of the inscription of his tombstone read that he was the father of the University of Virginia.

behind the present preservation work, according to Murray Howard, architect for the university's historic buildings and grounds, is respect for the history of the 160-year-old site.

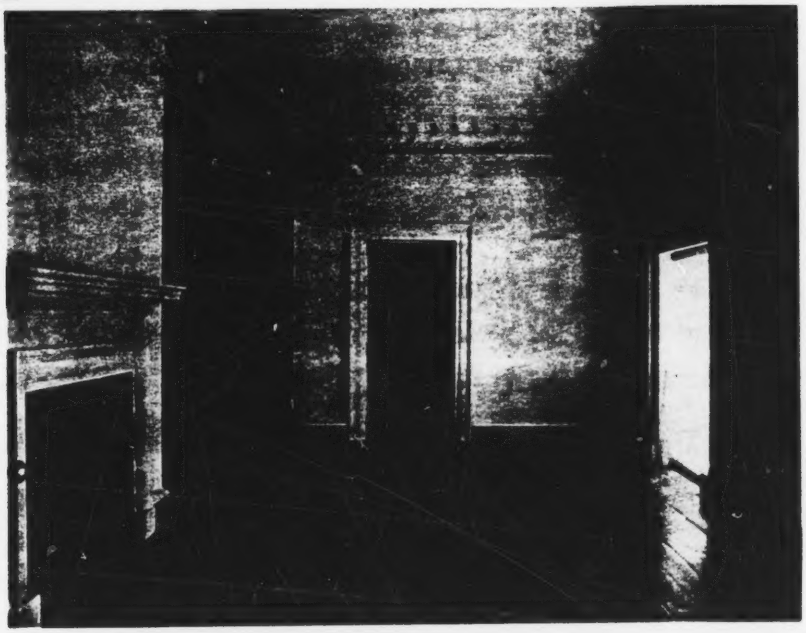
This respect entails retaining necessary alterations such as bathrooms, and eliminating those that are unnecessary or poorly done, such as some cabinet work. Adaptive reuse of interiors has included modern lighting, heating, air conditioning and furnishings. Exterior preservation efforts, as mandated by the Virginia Historic Landmarks Commission, include only replacement in kind with similar or identical material precisely duplicated in size.

To prevent the sort of "over-restoration" that perfects awkward but original features, Howard and his staff perform piecemeal repair whenever possible, rather than total replacement. To make things easier for future preservationists, new materials are dated as they are installed.

An interior door at Pavilion VIII exhibits the sequence of door finishes between the 1820s and the 1970s. Pine was exposed on the right and 1820s graining on the left. The white band shows how indistinct moldings can become when painted many times. (Slide courtesy of the University of Virginia)

Eighteen months of planning and research preceded restoration of Pavilion VIII, which was begun in the winter of 1985. Few drawn or written records guided their explorations, so scientific analysis of Pavilion VIII's fabric—which had not been greatly modified—provided the basis for preservationists' work. This building, where pine doors were restored by again graining them to look like mahogany, is the site of the first thorough analysis of paints and other finishes used in the academical village. Paint analysis of the earliest coats on selected doors revealed that the color range of the original graining technique had been lighter and redder than later graining efforts. Two doors that were relieved of paint down to the first graining were left exposed for future study.

A specialist in graining restoration for Monticello determined the original colors, style and pattern of the graining, and trained University of Virginia craftsmen to duplicate color and technique. Restoration was done using an oil-paint base coat, a glaze coat of oil-based varnish, linseed oil, paint thinner, japan drier, and



Restored faculty residence located on second floor of Pavilion VIII. *(Slide courtesy of the University of Virginia)*

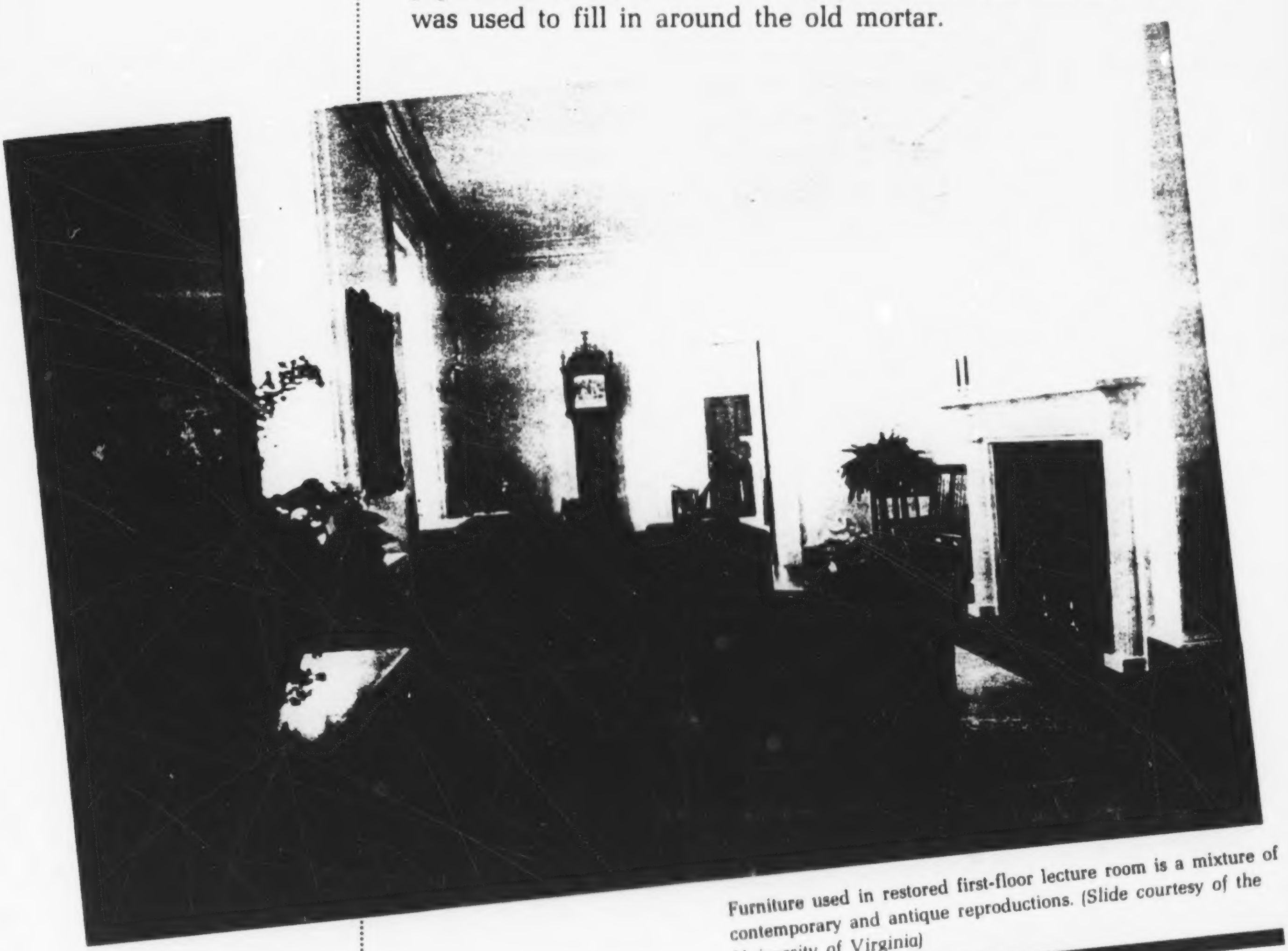
pigments, then covered with a protective layer of either a clear oil-based varnish or a paste varnish.

Tools were as simple as those used originally: natural bristle brushes and cotton rags. Because they decided to leave as many paint layers as possible intact on most doors, surfaces were smoothed through a combination of sanding and scraping. An exacting and tedious task—just preparing each door for graining took more than 20 hours—it was nevertheless a satisfying one for restorers. One craftsman remarked that he could feel the rhythm of the original grainer as he worked. As a result, his own movements flowed.

Repairing brickwork and replacing mortar in Pavilion VIII presented to preservationists another challenge. The bricks, made from local clay, had held up fairly well, but the mortar had turned to powder. The Chief of the National Park Service's Williamsport Preservation Training Center was called in as a consultant to analyze the problem and train university masons. It was determined that presently available methods to remove old mortar damaged the bricks unacceptably, so removal was done only as a last resort.

A panel erected during the masonry seminar was used to illustrate techniques required to produce appropriate joint profiles. *(Slide courtesy of the University of Virginia)*

Instead, a specially prepared lime mortar, lightly pigmented to blend more naturally with the old mortar, was used to fill in around the old mortar.



Furniture used in restored first-floor lecture room is a mixture of contemporary and antique reproductions. (Slide courtesy of the University of Virginia)

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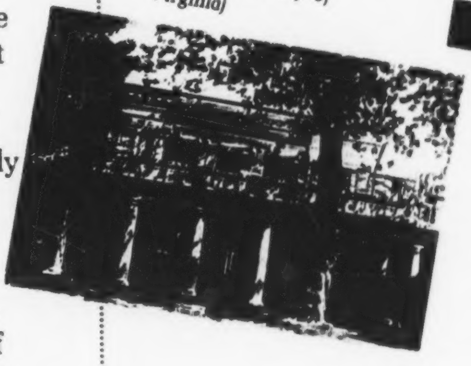
An exciting part of the restoration of Pavilion VIII derived from the knowledge that, prior to the mid-1800s, the deck on the top of the one-story colonnade had extended into the two-story niche on the west side of the building. This extension of the deck had chopped two columns in half, disguising the fact that there had originally been a small bridge that led from the second floor to the deck.

This bridge, designed by Jefferson, enabled the professor living on the second story to visit his neighbors in flanking pavilions without going downstairs. In the process of restoring this deck to its original design, preservationists found the only unpainted stucco on any columns of the colonnades, which are made of brick covered with stucco. The restoration of the upper deck once again permits light to fall down over the deck to the first floor below. A faculty member once again lives in the second story quarters of Pavilion VIII, and students meet in the rooms below—just as Jefferson originally planned.

Other work that went into restoring Pavilion VIII included removing acoustical tiles from the ceilings, and conducting color research to find original wall tones. The professor living on the second floor furnished his own quarters, but furnishing the interiors of the public rooms below presented a challenge. The solution—since the university could neither afford antiques nor thought them practical for student use—was a mixture of contemporary furnishings and a few period pieces and new pieces inspired by period pieces, but not commonly available period reproductions.

Although much has been accomplished in Pavilion VIII and in other restoration projects, preservation efforts are never expected to reach completion. Rather, restoration of the buildings is intended as a program of continued study and successive phases of work on each building, the aim of which is intellectual activity and the perfection of techniques. One can only believe that Jefferson, who designed his academical village to be a laboratory for learning, would be greatly pleased.

The Pavilion VIII restoration was made possible by the combined efforts of architects, consultants and craftsmen—the latter of whom had to master the delicate, often painstaking, techniques essential to successful restoration. *(Slide courtesy of the University of Virginia)*



One Family's Vision

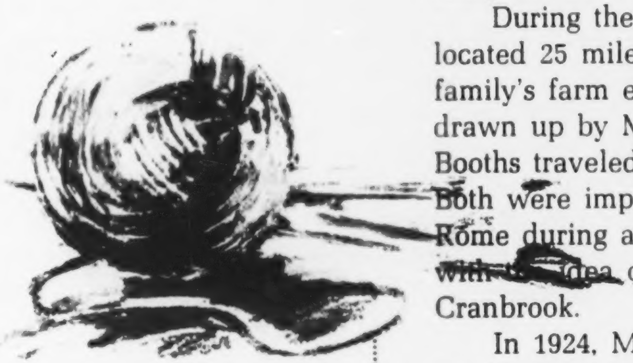
"God has blessed the man who has a vision of beautiful things not yet created."

—George G. Booth
Founder of Cranbrook
From remarks made in 1925
at a dinner honoring architect Eliel Saarinen

In 1904 when wealthy publisher George Booth bought as a summer retreat the rundown farm that would later become Cranbrook, the vision of what it would become was not yet clear to Booth himself. His commitment to the arts, however, was already plainly evident.

Both he and his wife, Ellen Scripps Booth, were arts patrons and proponents of the Arts and Crafts movement who shared a commitment to enhancing the beauty and quality of life. This commitment, combined with their "vision of beautiful things not yet created," would lead to the founding of a unique educational community to which the Booths would dedicate their lives and their fortunes.

"We are unwilling to go through life with our aims centered mainly in the pursuit of wealth and with a devotion wholly to the ordinary opportunities for social satisfaction," Mr. Booth said in 1927 at the dedication of Cranbrook School. "We wished to see our dreams come true while we were, to the best of our ability, helping to carry on the work of creation . . . . "



During the years between the purchase of the land, located 25 miles from Detroit, and the mid-1920s, the family's farm estate was developed based on plans drawn up by Mr. Booth. During this time, also, the Booths traveled to Europe to research art academies. Both were impressed with the American Academy in Rome during a 1922 European trip, and returned home with the idea of establishing a similar arts academy at Cranbrook.

In 1924, Mr. Booth shared his idea for an art academy on the grounds in discussions with the noted

Finnish architect Eliel Saarinen. Then a visiting professor of architecture at the University of Michigan, Saarinen canceled his plans to return to Finland to stay on and help guide Cranbrook's development. By that time, the Meeting House and the Greek Theatre had already been erected to serve Mr. Booth's family and neighbors.

Construction at Cranbrook, including schools and living and studio spaces for many types of artists, was well underway by 1930. Christ Church Cranbrook, designed by Oscar Murray of the firm of Goodhue and Associates, and decorated by nationally known artists and craftsmen, had been completed in 1928.

In 1932, the Cranbrook Academy of Art was officially established with Eliel Saarinen as its first president. Students who enrolled were expected to "learn by doing" and by observing the experienced staff

Sculptor Carl Milles came to Cranbrook from his native Sweden in 1932 at the age of 57 and spent nearly 20 years there, creating some of his most impressive statues. Milles' *Orpheus Fountain*, created between 1934 and 1937 at Cranbrook, features eight bronze figures, each approximately 8 feet tall, in postures responsive to the lyre music of the god Orpheus. Patterned after Milles' original Orpheus Fountain in Stockholm, the sculpture lacks the large central figure of Orpheus. It is located in front of the Cranbrook Academy of Art Museum. *(Slide courtesy of Cranbrook Educational Community)*

Christ Church Cranbrook, commissioned by George Booth in 1923 and completed in 1928, was designed in the Gothic style by Goodhue and Associates, the leading ecclesiastical architecture firm in America. Many of the church's priceless ecclesiastical objects were created at Cranbrook. Others, such as two 18' x 12' tapestries, described by newspapers of the time as among the world's largest, were made in England. The church's chapel is named for the patron of artists and craftsmen, St. Dunstan. *(Slide courtesy of Cranbrook Educational Community)*

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of mostly European-born artists and craftsmen such as designer and architect Saarinen, sculptor Carl Milles, painter Zoltan Sepeshy and many others. Today, Cranbrook art students can study architecture, interior design and furniture design, metalworking, photography, textiles, ceramics, printmaking, and sculpture and painting.

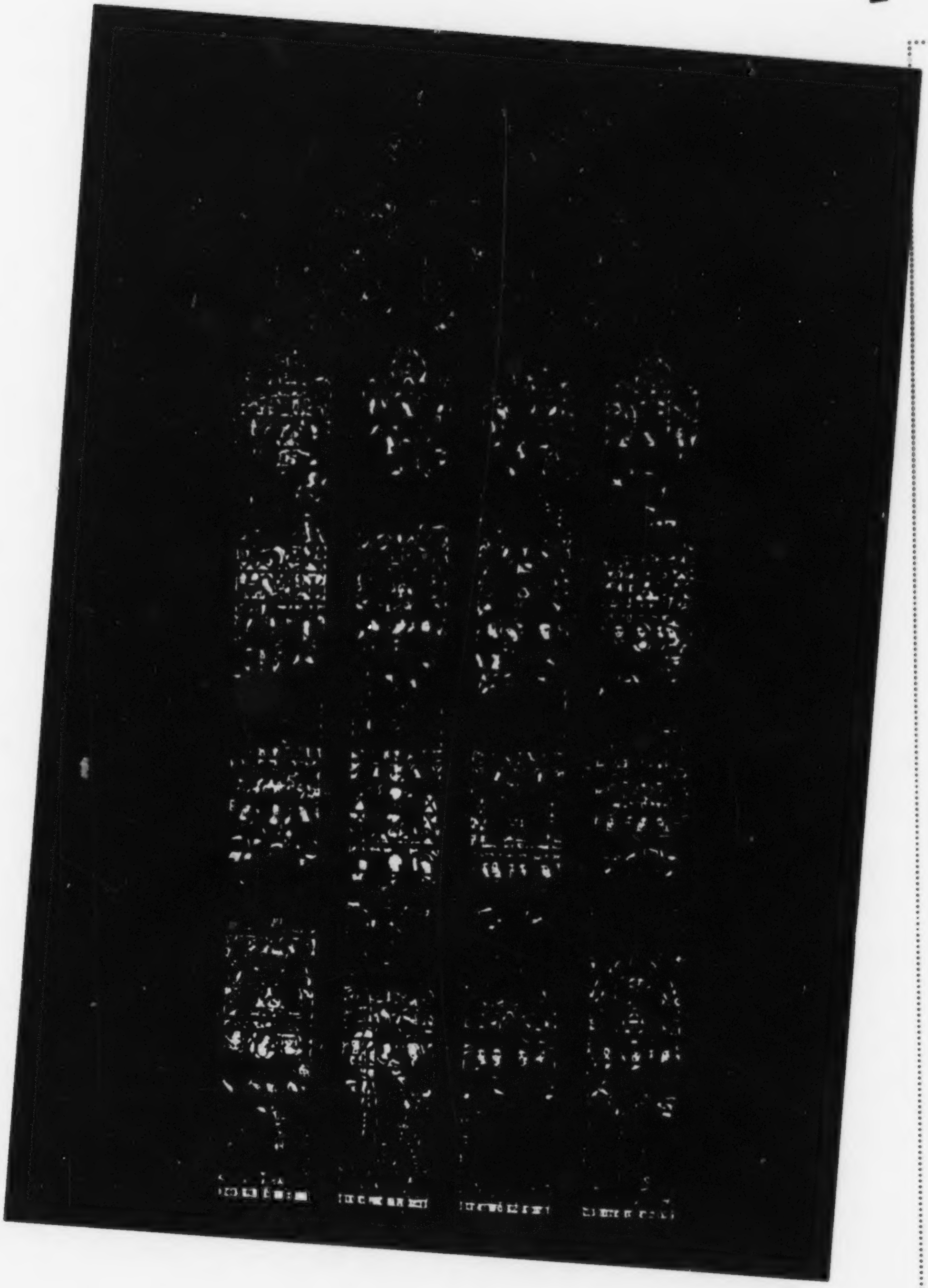
Close relationships between students and teachers were and are encouraged, for one of the Cranbrook's unwritten educational philosophies was that no artificial boundaries should exist between teachers and learners, most of whom lived on the grounds. "The pupils—limited in number—must be led by real student teachers who are students of life as well as of book lore and facts," Mr. Booth said in 1931. "Cranbrook should be a teacher of teachers as well as of youth." Intellectual, spiritual, cultural and artistic growth were all nurtured by Cranbrook's founders.

Many who lived and worked at Cranbrook, both as students and teachers, have achieved worldwide recognition for their contributions to the arts and crafts. The contributions made by Eliel Saarinen in the fields of architecture and furniture design, for example, are regarded by critics as among the most important in the history of 20th century American design.

His wife Loja Saarinen, a gifted photographer, sculptor, designer and weaver, is also widely recognized for her wall hangings, carpets, curtains and other award-winning work with fabrics. Loja and Eliel's son, Eero, was a renowned architect who designed Dulles International Airport and much of the furniture at Kingswood School. Daughter Pipsan was also a notable designer of clothing, textiles and interior decorations.

Charles Eames, one of Cranbrook's first instructors of design, became internationally famous for his ultra-modern Eames chairs. The Saarinens and Eames are only four of dozens of the gifted and famous who worked, taught and studied at Cranbrook. Cranbrook's Art Academy remains on the leading edge of architecture, art and design—a place where artists and

The dining hall at Kingswood School, which was designed by Eliel Saarinen and built between 1929-31, is regarded as one of the most impressive interior spaces in this art deco style building. Natural light is provided by two rows of large windows, as well as by small windows in the upper walls. Artificial lights are concealed in the vertical plane running along the lower edge of the vaulted ceiling. The room's focal point is a 7'2" x 3'9" wall hanging of linen, wool and silk called *Festival of the May Queen* designed by Eliel Saarinen and his wife, Loja, and woven by Loja Saarinen. (Slide courtesy of Cranbrook Educational Community)



Titled *Womenkind*, this window in the west wall of Christ Church Cranbrook depicts 150 famous women from the fields of education, nursing, religion, and the arts. Designed in England by James H. Hogan, the window includes likenesses of artist Mary Cassatt, poet Amy Lowell, novelist Louisa May Alcott, Queen Elizabeth I, actress Sarah Bernhardt and many other famous women from various fields. At the base of the window is the inscription, "Her children rise up and call her blessed, and her works praise her in the gates." (Proverbs 31: 28, 31) *(Slide courtesy of Cranbrook Educational Community)*

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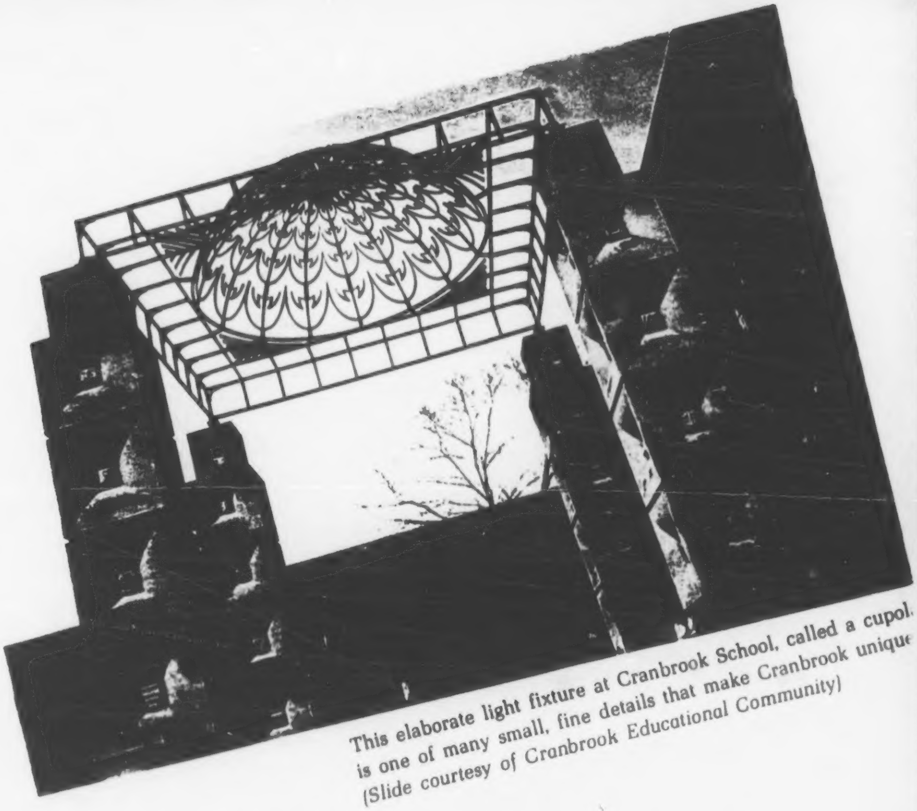


This elaborate light fixture at Cranbrook School, called a cupol is one of many small, fine details that make Cranbrook uniqu (Slide courtesy of Cranbrook Educational Community)

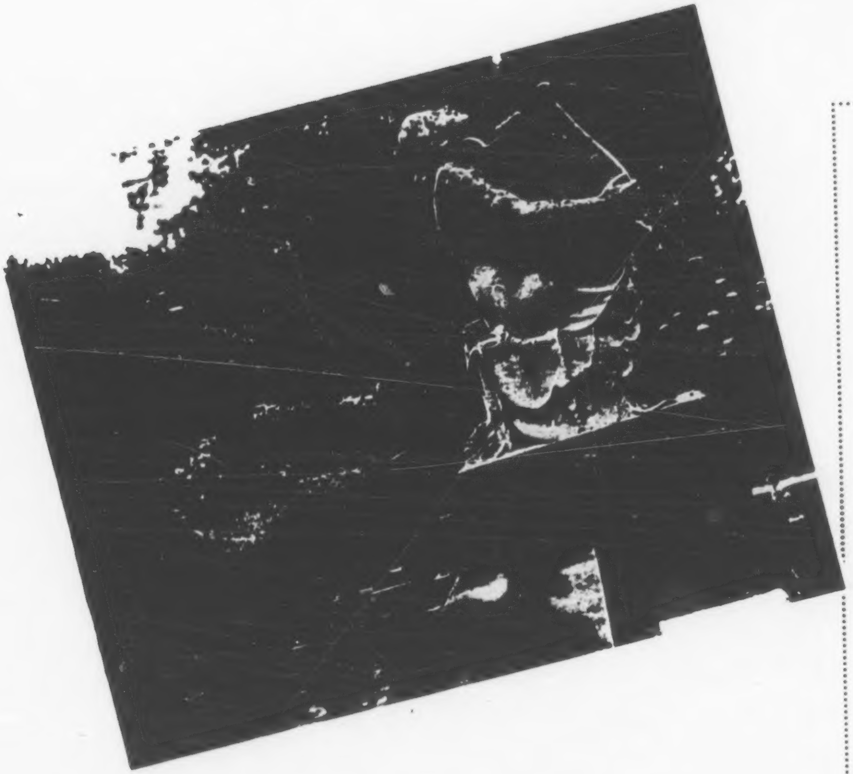
Designed by Eliel Saarinen and constructed between 1940-42, the Cranbrook Academy of Art Museum and Library reflects a classical style in its peristyle. The Museum houses a changing collection of contemporary art in its galleries. The work of Cranbrook artists and designers is displayed in its upper gallery. The building also houses a library, bookstore and lecture hall. (Slide courtesy of Cranbrook Educational Community)

students from around the world gather to create and learn.

Over the years, Cranbrook's 315 acres have been developed to include 204 buildings and 40 flower gardens. The buildings include three schools with 1,400 students, the Cranbrook Academy of Art, the Cranbrook Academy of Art Museum, the Cranbrook Institute of Science, the three-story family home, and many faculty homes, dormitories and studios for artists and crafts people. Christ Church Cranbrook, once a part of Cranbrook, is today an affiliate institution of the Community.

After the deaths of Mr. and Mrs. Booth in the late 1940s, Cranbrook's finances became somewhat shaky and, over the years, the appearance of the grounds and buildings began to slip. Although 90 percent of the Booths' estate went to the Cranbrook Foundation to help maintain the community, it was not enough.

Cranbrook continued to have financial problems until a massive reorganization in the early 1970s resulted in the creation of the Cranbrook Educational Community



Harmony by Mario Korbel is a peaceful presence among the flower gardens at Cranbrook House, which has been kept just as it was when the Booth family lived there. Forty acres of gardens surround the home. (Slide courtesy of Cranbrook Educational Community)

to replace the Cranbrook Foundation. Divestiture of some holdings, such as the Evening News Association which was sold to the Gannett Company for $45 million, greatly increased the Community's assets. Recently, with the help of an outside specialist, a planning document has been created that charts Cranbrook's physical and program needs for many years.

As a result of this funding and planning, Cranbrook Educational Community is once again on a steadier course. Much-needed renovations and repairs are being made to restore Cranbrook to its original elegance, an elegance that upheld the beauty visualized by the Booths in the 1920s when Cranbrook was still a dream.

Remarks made in 1953 by Henry Scripps Booth, son of George and Ellen Booth, at a memorial ceremony honoring Eliel Saarinen, paint an eloquent image of the artists who helped make the Booths' vision a reality: "Cranbrook's founders painted their pictures with stone and brick and tile; with earth, water and growing things, and as a result, we have the living picture which is Cranbrook."

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A Garden of Knowledge

Surrounded by greenery, Beaumont Tower stands on the site of College Hall, the first building in America erected for the teaching of scientific agriculture. College Hall was destroyed by fire in 1919 and Beaumont Tower was built in 192
(Slide courtesy of Michigan State University)

> *"God Almighty first planted a garden. And, indeed, it is the purest of human pleasures."*
>
> —Francis Bacon
> *Of Gardens*

Gardening is both a science and an art, and nowhere is this more apparent than on the campus of Michigan State University where its founders declared that the "college premises would be properly laid out and tastefully arranged." On its 5,200 acres in East Lansing grow an incredible variety of flowers, trees, shrubs, and other plantings displayed in settings designed both to teach and to delight the senses. A plant labeling system identifies the various species spread over 60 miles of walkways.

Established in 1855, Michigan State in 1862 became one of the earliest land-grant colleges in the country and is the only land-grant institution in the state. Early

The existing Horticultural Gardens located on MSU's north campus are used by the Department of Horticulture for instructional and demonstration purposes, as well as for testing the performance of plants under central Michigan climactic conditions. These two-acre gardens contain spring, summer and fall flowering bulbs, as well as roses which complement the annual perennial plantings. *(Slide courtesy of Michigan State University)*

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campus planners visualized the campus as an outdoor classroom and living laboratory for horticulture, and the fruits of those labors have been carefully tended. Over the years, the planned horticultural areas have been expanded and the beauty of the many natural areas has been maintained.

Among the campus' many botanical attractions are the Harper Collection of Dwarf and Rare Conifers at the Hidden Lake Gardens and the 114-year-old W.J. Beal Botanical Garden, which is the oldest continuously operated botanical garden in the United States.

At Hidden Lake Gardens, located off campus on 670 acres of rolling countryside near Tipton, Michigan, are a large collection of cone-bearing trees. Curved flower beds enhance the woody setting and complement the serpentine pattern of the hillside where the Collection is located. Other tree species at Hidden Lake include crabapples, maples, pines, willows, lilacs, flowering cherries and many others. A Gardens Center Building and Plant Conservatory are among Hidden Lake's other attractions.

Beal Bontanical Garden, located on the main campus along the Red Cedar River, is the oldest continuously-operated botanical garden in the United States. This display garden of more than 5,000 species and varieties of plants functions as an outdoor laboratory for the study and appreciation of plants and plant science. Visitors are self-guided through the garden by a system of descriptive labels that provide information about plants displayed in the four main collections. These include Systematic Collection plants, which are grouped in related botanical families; plants in the Economic Collection, arranged in human use categories; the Ecological Collection displays featuring components of Michigan's natural plant communities; and the Landscape Collection, which contains plants valued for their ornamental qualities.

The garden was established in 1873 by then-professor of botany, William J. Beal, who is credited with the development of hybrid vigor in corn. Many projects at Michigan State, the country's first agricultural

View over Hidden Lake, an ecological research center run by Michigan State University near Tipton, Michigan. *(Slide courtesy of Michigan State University)* college, still relate to botanical research, and studies focusing on genetics engineering have resulted in such breakthroughs as the development of new ornamental plant varieties. Another example of the botanical and horticultural expertise evident at Michigan State is its network of county extension offices and agriculture experiment stations offering the public horticulture education services, such gardening programs in urban areas.

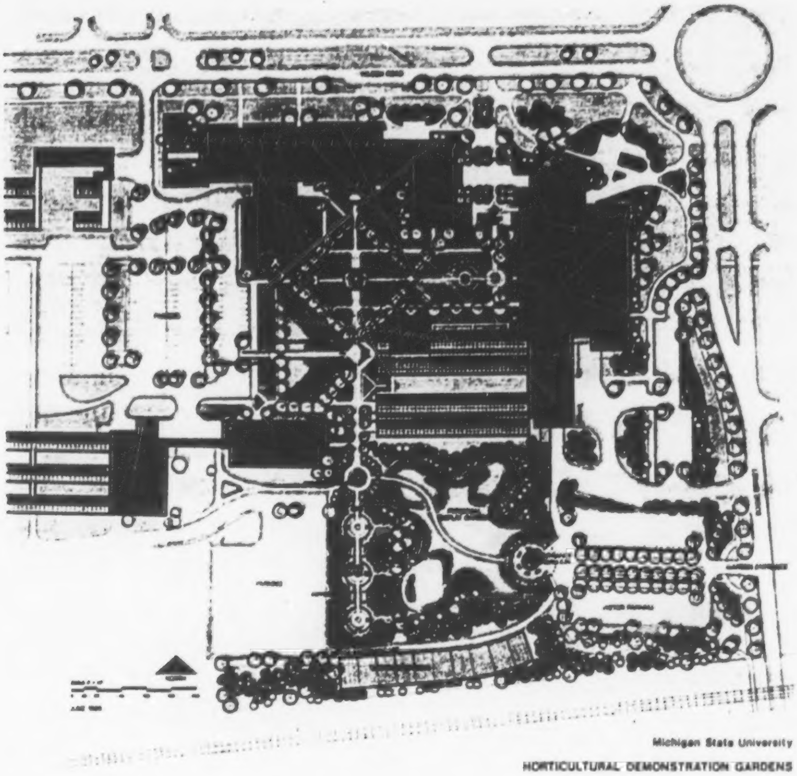
The university also runs two natural science research facilities located about an hour's drive from campus. They include the 2,200 acre Kellogg Biological Station at Gull Lake, which is a bird sanctuary, experimental farm and research forest, and Hidden Lake Gardens, an ecological research center near Tipton, Michigan.

This view of Beal Botanical Garden in summer shows some of the 5,000 varieties of plant species on display within its six acres. *(Slide courtesy of Michigan State University)*

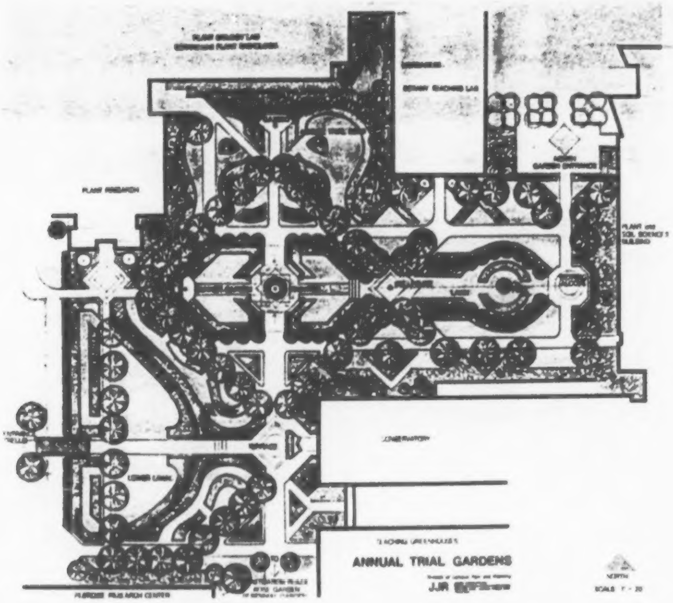
Development of new gardens is also a priority at Michigan State. A major project of the university's Division of Campus Park and Planning is the development of the Horticultural Demonstration Gardens. The gardens will occupy approximately six acres on the south side of campus near the Wharton Center for the Performing Arts.

These new Demonstration Gardens will be divided into four distinct areas. They include a 21,000 square-feet annual trial garden featuring formal and geometric patterns. These garden spaces will provide settings for floral displays, with variations in design giving each area of the trial garden a different character. Near this garden is a half-acre rose garden with 2,400 square feet of display beds. The rose garden is designed as three outdoor rooms created with evergreen screens. Visitors will enter the first of these garden spaces through an entrance arbor.

A number of openings join the rose garden with a two-and-a-half acre naturalistic style perennial garden set in a large open field to the east. The informal lawn area of the perennial garden will provide a green setting for flower beds. An enclosure of shrubs and trees screens views out of the garden. Also included, on the


Michigan State University
HORTICULTURAL DEMONSTRATION GARDENS

The master plan for the new Demonstration Gardens planned at Michigan State University reflects diversity in design and landscaping. *(Slide courtesy of Michigan State University)*



The annual trial garden shown in this plan will occupy about one-third of the total space allotted for the Demonstration Gardens. *(Slide courtesy of Michigan State University)*

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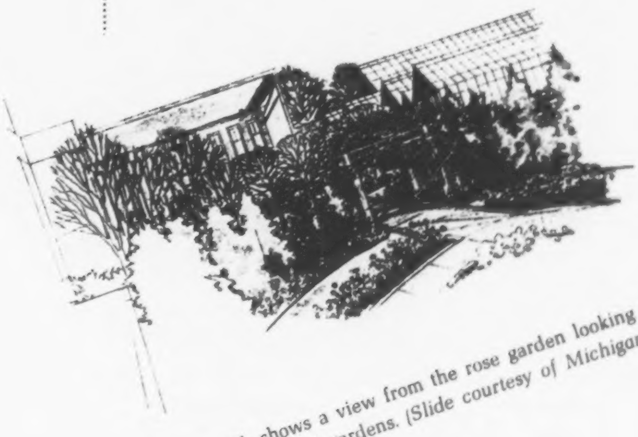
The annual trial garden spaces will occupy the large ell-shaped space between the Botany Teaching Lab and the Plant Biology Lab. *(Slide courtesy of Michigan State University)*



This sketch shows a view from the rose garden looking north toward the annual gardens. (Slide courtesy of Michigan State University)

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south edge of the Demonstration Gardens, is a half-acre working garden for research and teaching.

The gardens, which will cost a total of $1.5 million, will be funded primarily by private donations. Completion of the annual trial garden is expected in 1988, with the remaining gardens finished in 1989. Designed as an orderly arrangement of outdoor spaces, the gardens will be defined by structures and plantings that provide the backdrop for display of herbaceous plantings. Scuptures, sundials, topiary, small pools, and special container plantings will be displayed where appropriate. A large fountain will be located at the intersection of the two main axes of the garden. Surrounding it will be a diamond-shaped sunken garden defined by walls and trees.

To encourage unhurried appreciation of the gardens, several types of seating are planned. Benches will be placed in niches and alcoves, and gazebos and loggias have seating designed into them. The low garden walls in many places will also invite visitors to sit and rest.

Planners say the Horticultural Demonstration Gardens will share the campus spotlight with the Beal Gardens in their excellence of design. The gardens will be unique, however, in their focus on both the science and the art of horticulture and garden architecture.

Planners expect that the informality of the perennial gardens will encourage visitors to rest on the grass. *(Slide courtesy of Michigan State University)*

THE COLLEGE OF WILLIAM

The Wren Building—A New Departure in Colonial Architecture

> *"The building is beautiful and commodious, being first modelled by Sir Christopher Wren, adapted to the Nature of the Country by the Gentlemen there . . ."*
>
> —The Reverend Hugh Jones
> *The Present State of Virginia*, 1724

Two-hundred-and-ninety-two years after its original foundation was laid, the Wren Building at The College of William and Mary is still serving students. Built between 1695 and 1699, it was the first structure erected on campus after King William III and Queen Mary II of England granted the College's founding charter in 1693.

The College is located in the heart of historic Williamsburg, Virginia, the state's capital city until 1780, when the capital was moved to Richmond. The second oldest college in the United States, William and Mary claims a number of distinguished alumni, including Presidents Jefferson, Monroe and Tyler. George Washington served as William and Mary's first United States chancellor.

The city of Williamsburg, the College and the Wren Building all have a proud and often tumultuous history. As a seat of royal government before the Revolution in 1776, Williamsburg was a hotbed of educational, political, and cultural activities in what most historians agree was the foremost American colony. Students and faculty at the College of William and Mary were deeply involved in the American Revolution and later, the Civil War, when the College's president and most of the faculty and students enlisted in the Confederate army. During the Revolutionary War, the French used the Wren Building as a Hospital. During the Civil War, it was used as a Confederate barracks, a Union hospital and a commissary depot.

The relationship between town and gown was from the beginning designed to be a close one. The College was located only a mile from the city's government buildings and Capitol, where the legislature convened and

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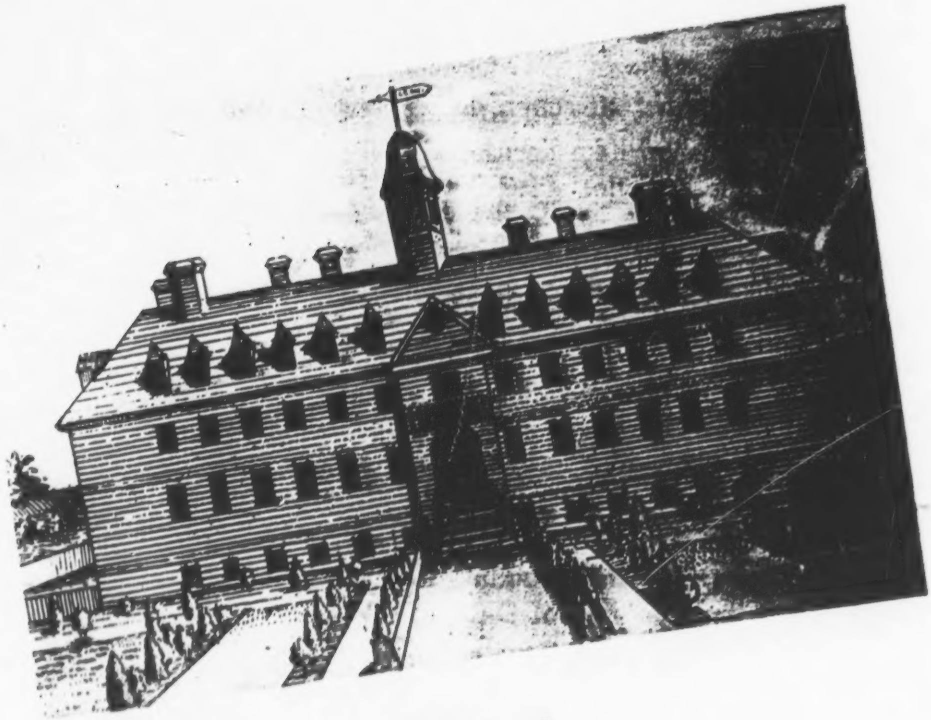

Then and Now—The Wren Building of The College of William and Mary in Virginia as depicted in the 18th century and in its restored form, circa 1980. *(Slides courtesy of the Colonial Williamsburg Foundation and The College of William and Mary)*

court cases were heard. For four years, the Wren Building served as a meeting place for the legislature while the Capitol was being constructed.

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The Sunken Gardens behind the Wren Building, constructed in 1935. (Slide courtesy of The College of William and Mary)

Now a major tourist attraction, living museum and city of 10,000, Williamsburg began to deteriorate in the 19th century. Restoration and preservation efforts at Williamsburg were begun in the 1920s with funds from John D. Rockefeller, Jr., who was actively involved in restoring the city until his death in 1960. Rockefeller's endowment continues to provide funds for the preservation of 88 original structures and for the city's living history educational programs. Thanks to Rockefeller's restoration support, the 173-acre Williamsburg Historic Area now looks very much as it did in the 18th century.

The first major Williamsburg structure to be restored by Rockefeller was the Wren Building located in the College Yard at the west end of Duke of Gloucester Street. Although it is named after the famous English architect, Sir Christopher Wren, experts disagree about whether Wren himself designed it or whether it was simply based on his style. Hugh Jones, the College's first mathematics professor, in 1722 wrote that the building was "first modelled by Sir Christopher Wren" and compared its design to that of the Royal Hospital in Chelsea, England, which Wren is clearly credited with designing. Both buildings have cupolas over their central entrances, similar dormer windows and other design features in common.

On the other hand, there are also many differences, such as the size of window openings, between the Royal Hospital and the Wren Building, which was, according to Jones "adapted to the Nature of the Country by the Gentlemen there." Unfortunately, Jones left no clue as to whom the "gentlemen" were, so the identity of the person or persons ultimately responsible for the adapted design of the building remains a mystery.

The importance of the building is not whether or not it was designed by Wren—indeed, the name "Sir Christopher Wren Building" was not used until after it was restored by Rockefeller in 1928. Prior to that date it was first called "The College," and later the "Old Main Building." According to William H. Pierson Jr., author of

American Buildings and Their Architects, the building is architecturally significant because "... it introduced into the Virginia Colony the major aspects of his [Wren's] style; even though the medieval preferences of the local workmen are apparent in its narrow proportions and angular shapes, the building represented a radical shift in formal principle and it began a completely new departure in American colonial architecture ... from late medieval to the Wren-Baroque style ... representing a stylistic statement at a level of taste more sophisticated and contemporary than that of the simple folk buildings of the 17th century."

The Wren Building has three major rooms: the Great Hall in the north wing, which is considered the main room and is used for classes and meetings; the convocation room, or Blue Room, upstairs, where official college records were housed; and the south wing Chapel, built in 1732. Early drawings of the building show a three-story structure with 13 windows across the front. Built with locally-fired bricks and timber cleared from the College's land, records show it was constructed by slaves, indentured servants, local laborers and workmen imported from England.

Georgian Revival dormitories, built in 1928. (Slide courtesy of The College of William and Mary)

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[redacted]

In the nearly three centuries since it was built, the Wren Building has suffered a number of tragedies. A fire in 1705 almost completely destroyed the structure, which was not rebuilt until 1716 when Queen Anne provided the needed funds. Faulty architecture seems to have been the culprit in this first fire. A memorandum written by Governor Francis Nicholson shortly before the fire warned that "all the chimney's in the 2nd Story are scarce big enough for a Grate whereas the only firing in this Country being wood, a fire can't be made in them without running the hazard of its falling on the floor . . ."

The first restoration differed in several ways from the original structure, but used much of the old walls and was built on the original foundation. A floor plan prepared by College alumnus Thomas Jefferson shows the rebuilt layout as well as the proposed addition of the Chapel in the south wing. One hundred and fifty-five years later, a fire that started in the north wing did serious damage to that area of the building and also spread to and destroyed the interior of the Chapel in the south wing. Three years later in 1862, Federal soldiers set fire to the building; it remained closed until it was reconstructed after the Civil War.

The restoration of the Wren Building funded by Rockefeller in the 1920s is based on the 1716 reconstruction following the first fire. During restoration, a structural system that stabilized but did not utilize the original walls was designed to support the reconstructed building. The original ancient walls were repaired and tied to a wholly independent steel frame and concrete building erected within them. The new structural frame is carried on a grillage foundation bearing on either side of the old walls. This foundation supports a columnar system set in cork-lined chases cut into the walls to absorb vibration or movement that could damage them.

Today, the Wren Building stands as the oldest academic building still in use in the United States. It houses both offices and classrooms for the College, in addition to Colonial Williamsburg exhibits depicting 18th century academic life.

Crim Dell Bridge and Green Space, circa 1935.
(Slide courtesy of The College of William and Mary)

Aerial view of the New Campus, 1968.
(Slide courtesy of The College of William and Mary)

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THE OHIO STATE UNIVERSITY

Students' Feet Shaped Its Paths

Toning up on the Oval. *(Slide courtesy of The Ohio State University)*

The University's "front lawn" provides places for quiet talks. *(Slide courtesy of The Ohio State University)*

> *"One can wander up and down the walks leading from High Street to the Oval almost any time of the day and see groups of giggling co-eds or unambitious underclassmen seated on the ground 'enjoying nature to its fullest.' . . . it is especially out of order and extremely rude for students to use the President's yard for such foolishness."*
>
> —"Loafers on Campus"
> Editorial, The Ohio State University
> *Lantern*
> September 22, 1920

Every weekday at the quarter hour its paths resonate with the rumble of thousands of feet as Ohio State students hurry to classes on its criss-crossed paths. In bad weather, filled with purposeful people intent on getting inside, it's mainly a utilitarian web of walkways. In good weather it also serves as a temporary outdoor home to sunbathers, dogs, picnickers and assorted other nature lovers who claim their spaces amid its sheltering trees and thick grass.

The Oval—no longer the president's yard—is not a dignified stretch of manicured and sacred ground. Instead, like a mother's lap, its green expanse invites familiarity. It serves, often simultaneously, as a playground, pedestrian walkway and outdoor reception area to as diverse an academic community as can be found on any campus in America. Pulsing with life, throbbing with movement and sound, the Oval is the heart of Ohio State's 3,200-acre campus.

On its commodious grounds students have assembled for the sublime and the serious: class pictures and commencements, rallies and riots. Sometimes the gatherings have been orderly, sometimes not. On a rainy April Sunday in 1980, the Oval was the setting for more than 4,300 people engaged in the world's largest game of musical chairs. On another spring day—this one in

Students travel the Oval's criss-crossed paths. *(Slide by J. Kevin Fitzsimons, courtesy of The Ohio State University)*

1970—its 11.5 acres accommodated 5,000 protestors, some carrying rocks and bricks, and 1,200 armed police and National Guardsmen in a confrontation that culminated in the first and only student strike in Ohio State's history.

An arena for both anger and joy, the Oval's distinctive shape and network of paths evolved not by design, but by accident. Originally conceived as a quadrangle, the Oval's elliptical form was shaped over

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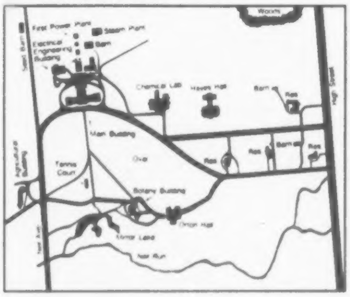
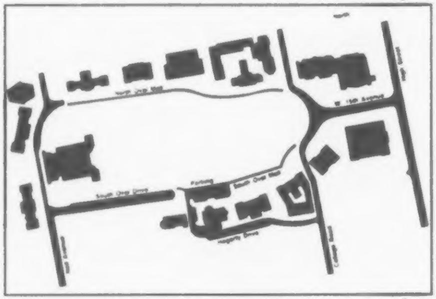
Map depicting the central area of The Ohio State University campus in 1892.





Over time, the central area of the campus took on the distinctive shape of an oval, a designation first recorded in 1910 and formally attributed in 1920. This map shows the Oval and the buildings surrounding it as of 1982.

20 years by the placement of buildings and roads constructed around it. Extensive research by John H. Herrick, executive director emeritus of Campus Planning, shows that the 1893 design of the campus conceived by Captain Herman Haerlin, a landscape gardener from Cincinnati, followed that of an English manor. The main campus building, University Hall, served as the manor house. Set well back from the highway, its service buildings were behind it, with lawns, gardens, wooded areas and other landscape features informally placed around the main structure.

The construction of additional buildings and roads around the large lawn in front of University Hall during the 1890s began to define the space as an oval rather than as a quadrangle. Around the turn of the century, another university master plan designed by Haerlin further defined the oval shape of the lawn. The first written reference to the green space as an oval occurred 10 years later. By 1912, the area was often referred to as the "campus oval" or the "central oval." Eight years after that, the word "oval" was capitalized and the modifiers were dropped—the space became simply, and for all time, "the Oval."

In 1914, a master plan developed by the new university architect named Joseph Bradford proposed a very formal, geometric pattern of walks within the Oval. Bradford's plan also changed the streets bordering the area to perfect its elliptical shape. Lack of funds made it impossible to build most of the walkways Bradford proposed, but the university did create a wide path extending from the main library at the apex of the Oval to the open space at its east end. Known then and now as "the Long Walk," it was by tradition off bounds to freshmen, whose punishment for trespassing was a dunking by upper classmen in nearby Mirror Lake.

Despite attempts to redirect them, students continued to make their own paths through the grass. They also found time to "lounge around" on the Oval and to litter. A 1920 editorial in the student newspaper admonished that "it does not add to the beauty of the campus one whit to have paper sacks, popcorn boxes, etc. distributed over its [the Oval's] surface." In 1921, the Men's Student Council, in support of a campus beautification plan, proposed forcing students caught cutting across the Oval's grass to retrace their steps and take the proper course to their destination. The plan was not enforceable, and the students' footpaths eventually became the present paved network.

Gradually over the past 16 years, the central campus surrounding the Oval has also become a pedestrian area. Prior to 1970, Neil Avenue, a major north-south Columbus street that went through the campus, was considered by both the city and university traffic engineers to be a vital city artery. During the student disturbances in 1970 when all university activities were suspended for several days, Neil Avenue was closed to traffic. Advantage was taken of this unprecedented action and the street was never reopened through campus, thus making the area more hospitable to pedestrians.

Model-T's lined the outer edges of the Oval in this 1912 panoramic view. (Photo courtesy of Photo Archives, The Ohio State University)

On April 27, 1980 a world record 4,378 persons crowded the Oval to play musical chairs. Proceeds from the event were donated to the American Heart Fund. (Photo courtesy of Photo Archives, The Ohio State University)

In 1974, North Oval Drive was converted to a pedestrian mallway and in 1975 the east end of South Oval Drive followed suit. Presently, College Road, which borders the east end of the Oval, is the only section where vehicular traffic gets in the way of pedestrian access to the buildings bordering the university's central lawn.

View of entrance of Hayes Hall which borders the Oval. This campus landmark was first occupied in 1893. (Slide courtesy of The Ohio State University)

Aerial view of Orton Hall. A log house, which burned in 1884, once stood near this site. (Slide courtesy of The Ohio State University)

Students clown around on the Oval. (Slide courtesy of The Ohio State University)

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The edges of the Oval are now ringed by 16 buildings, some of them designed several decades ago by university architect Joseph Bradford as classical structures featuring gables, towers and pitched roofs. Hayes Hall and Orton Hall, two Richardsonian Romanesque buildings designed in the 1890s by a distinguished Ohio architectural firm, were recently renovated with careful attention given to the retention of their historical character. Named for architect Henry Hobson Richardson, Richardsonian Romanesque buildings are characterized by a massive, heavy appearance, simplicity of form, and rough-faced masonry. Orton Hall, which has the campus chimes located in its tower, also reflects the Richardsonian Romanesque style in the columns located in its lobby.

The new Wexner Center for the Visual Arts, a modern structure to be constructed on the Oval's eastern end, will further define its form. On its inner edges, the Oval is shaped by a variety of trees, many of them planted as class gifts on long-ago Arbor Days. Over the years, sculptures, historical markers, and boulders bearing plaques honoring veterans and university service clubs, have also been placed on and around the Oval.

Officially designated as an "open space" on the university's present master plan, the Oval has been the object of some drastic—and fortunately, unsuccessful—landscape redesign proposals. The most recent, in 1979, proposed making a "land sculpture" that would have raised 11 pieces of ground on the Oval into geometric hills, each with inclinations measuring about two-and-a-half feet. An earlier proposal in the 1970s called for a fountain on the Oval. Neither came to fruition, and no major changes are planned to the surface or shape of this space that has long served as the heart of The Ohio State University.

Trees, shrubs and outdoor seating work together to create a sense of order and harmony in the campus environment. (Slide courtesy of The Ohio State University)

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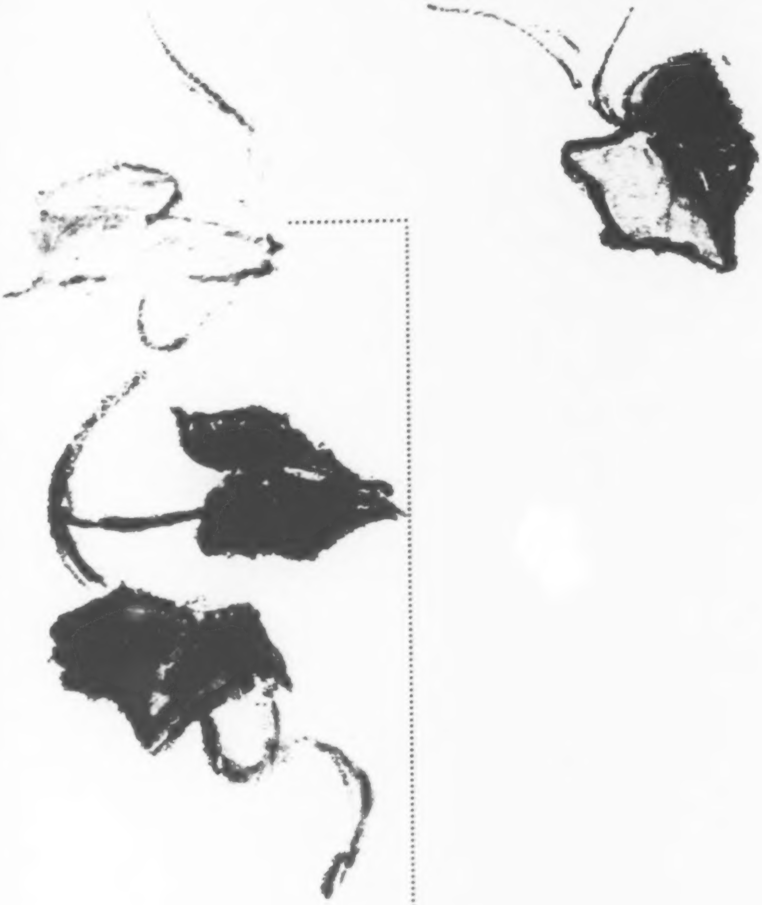

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